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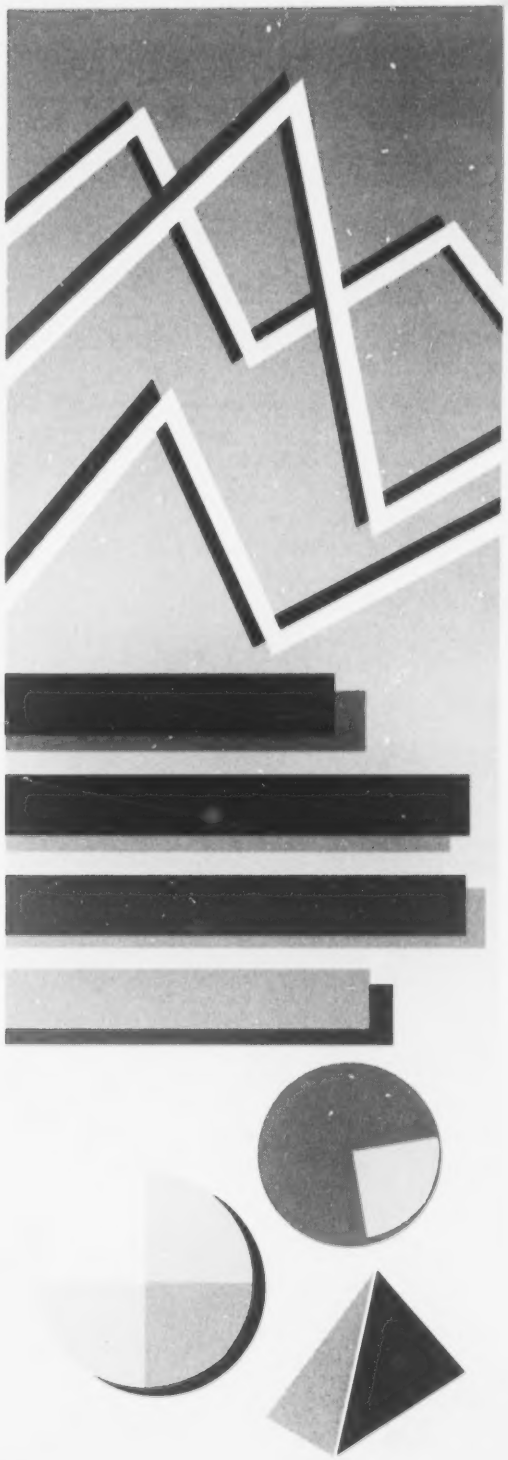
Annual Planning Information Report

1994



State of Michigan

ANNUAL PLANNING INFORMATION REPORT

PROGRAM YEAR 1994
(July 1994 through June 1995)

MICHIGAN

Prepared by

MICHIGAN EMPLOYMENT SECURITY COMMISSION
Financial and Management Services
Information and Reports Section

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PREFACE

The Annual Planning Information Report, published by the Michigan Employment Security Commission, Information and Reports Section, is an attempt to fulfill many of the data needs required by local planners. An Annual Planning Information Report is prepared for Michigan and each of the state's 27 Service Delivery Areas (SDA). Data prepared by MESC along with information from other agencies has been published in the report in order to facilitate the local planning process. The report's appendices contain specially prepared information tables intended to be used in conjunction with other data and narrative portions of this report.

This information was developed to meet the Michigan Department of Labor, Bureau of Employment and Economic Development's current planning guidelines and is the most comprehensive program year data currently available. The MESC Information and Reports staff utilized various data resources to estimate or project area planning information. In order to facilitate the use of this package, a glossary of terms section is included. Data limitations, interpretation and application are discussed in the table description section. User questions and suggestions are welcome.

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HIGHLIGHTS

Michigan's 1990 population level based on final census counts was 9,295,297. This represents a slight increase from the 1980 level.

The state's population developments in terms of age will have significant impact on labor force participation. Between 1980 and 1990, the state's overall population on average grew older. The median age of Michigan's residents increased from 28.9 years in 1980 to 32.6 years in 1990.

The latest estimate for 1992 indicate 1,176,397 persons in the state is economically disadvantaged. Nearly half of the state's disadvantaged population reside in the eight county southeastern region which includes the Detroit/Ann Arbor Consolidated Metropolitan Area.

During 1991, the economy continued to be weak as the unemployment rate averaged 9.2 percent. The economy began to rebound in late 1992 and by 1993 the jobless rate averaged seven percent, the lowest so far for the decade.

The state's labor market situation is expected to improve through PY 1994. The unemployment rate is expected to decline from 6.8 percent in PY 1993 to 6.6 percent in PY 1994.

Industry jobs rose by 1.1 percent during PY 1992, following two years of decline. Two-thirds of the increased jobs were supplied by the service industry, with major gains among business, health and social services.

A modest increase of 3.3 percent in industry employment is expected from PY 1992 to PY 1994. Services, construction and finance, insurance and real estate are the sectors projected to produce the fastest rates of job growth.

The 449,000 jobs expected to be added to the state's economy between 1988 and 2000 represent a growth rate of 11 percent.

Occupational groups projected to exhibit above average employment growth over the 1988-2000 period include executive, administrative and managerial workers, service workers, technicians and related workers and sales workers.

POPULATION

POPULATION TRENDS

Population developments are an important indicator of the potential labor force of an area. An area's population changes as migration patterns fluctuate and age cohorts move through time.

The state experienced significant population growth during the 1950's and 1960's. Growth during this period was attributed to high birth rates and the migration of workers due to the robust job market in the auto and related industries. During the 1970's and 1980's, population growth slowed dramatically as a result of several economic downturns over the period. A subsequent restructuring of the manufacturing industries occurred. The impact of these developments on population trends was a sharp reduction of in-migration to Michigan as the employment outlook worsened.

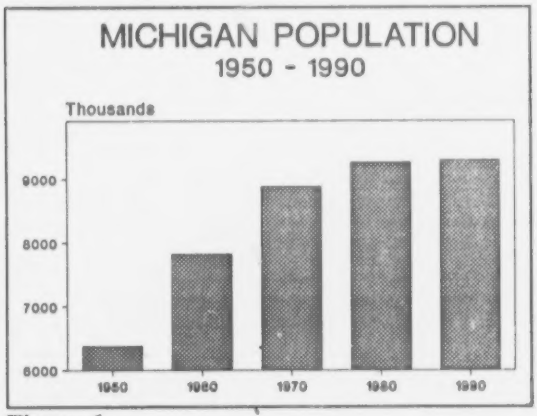


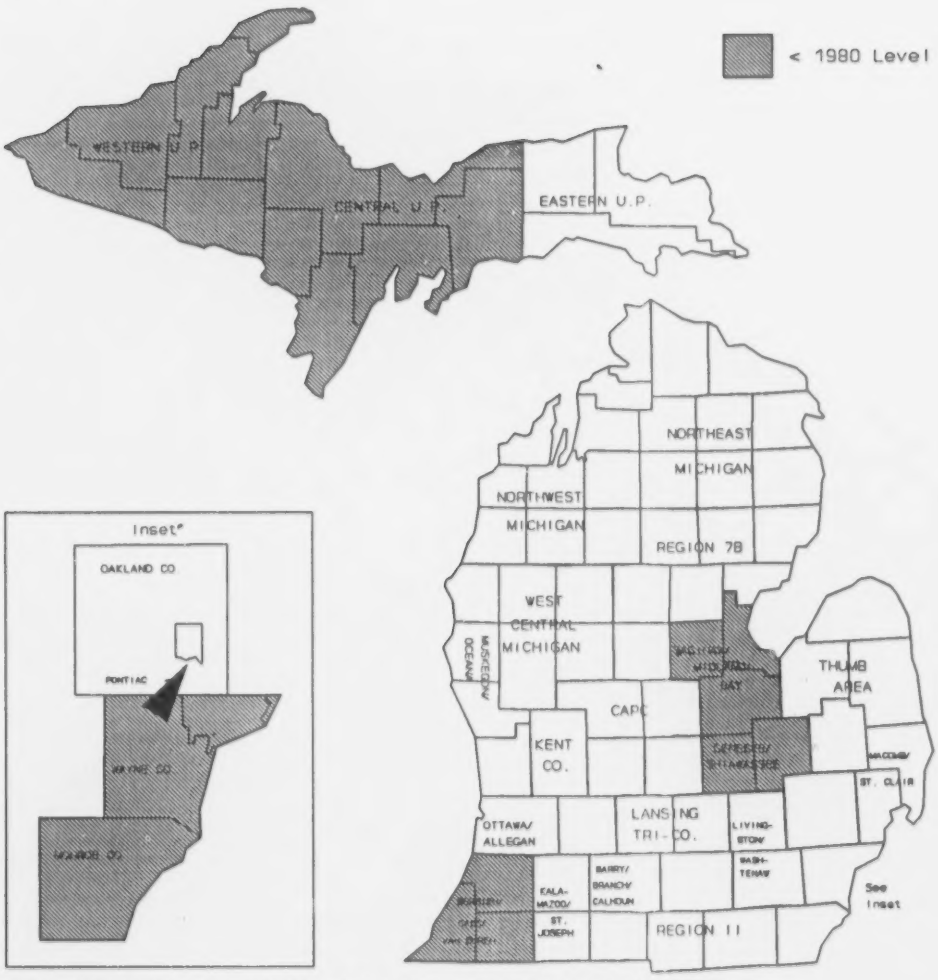
Figure 1

Michigan's 1990 population level based on final census counts was 9,295,297. This represents a slight increase from the 1980 level. Although the state experienced some population declines in the early 1980's, the population began to increase after 1983 as the state's economy experienced six years of employment growth.

Contrary to statewide trends, current population levels for some areas in the state are below their 1980 levels. This trend is reflected in eight of the state's 27 service delivery areas. Those areas reflecting population declines comprised approximately 40 percent of the state's population. With the exception of the upper peninsula, these areas are all located in the southern part of the lower peninsula. They tend to be the larger, older, more industrialized urban areas such as Wayne county including Detroit City; Berrien-Cass-Van Buren; Saginaw-Bay-Midland; Downriver-Monroe; and Genesee counties. Collectively, these areas comprise nearly one-third of the state's population.

The state's overall population pattern is also characterized by its geographic distribution. Generally, the sparsely populated regions of the state are concentrated in the upper peninsula and in the northern and central regions of the state. Approximately 69 percent of Michigan's population reside in the southern part of the lower peninsula.

AREAS OF POPULATION DECLINE



Note: SDAs located in inset include City of Detroit, Balance of Wayne County, Monroe - DCC, Pontiac Consortium and Balance of Oakland County

Figure 2

TABLE I.A

1980 - 1990 POPULATION BY SERVICE DELIVERY AREA

Area	1980	1990	Number Change 80-90	Percent Change 80-90
Michigan	9,262,044	9,295,297	33,253	0.4
Barry-Branch-Calhoun	227,526	227,541	-15	0.0
Berrien-Cass-Van Buren	287,589	280,915	-6,674	-2.3
Lansing Tri-County	419,750	432,674	12,924	3.1
City of Detroit	1,203,369	1,027,974	-175,395	-14.6
Thumb Area	204,099	205,145	1,046	0.5
CAPC	193,928	203,689	9,761	5.0
Region II	283,514	284,663	1,149	0.4
Kalamazoo-St. Joseph	268,461	282,324	13,863	5.2
Kent County	444,506	500,631	56,125	12.6
Washtenaw County	264,748	282,937	18,189	6.9
Livingston County	100,289	115,645	15,356	15.3
Macomb-St. Clair	833,402	863,007	29,605	3.6
Saginaw-Midland-Bay	421,518	399,320	-22,198	-5.3
Downriver-Monroe	512,642	486,082	-26,560	-5.2
Oakland County (Balance)	789,560	857,252	67,692	8.6
Muskegon-Oceana	179,591	181,437	1,846	1.0
Allegan-Ottawa	238,729	278,277	39,548	16.6
Pontiac Area	222,233	226,340	4,107	1.8
Genesee-Shiawassee	521,589	500,229	-21,360	-4.1
Wayne County (Balance)	756,491	731,231	-25,260	-3.3
Region 7B	119,644	130,445	10,801	9.0
West Central Michigan	124,882	129,776	4,894	3.9
Northeast Michigan	115,779	122,886	7,107	6.1
Northwest Michigan	208,286	230,962	22,676	10.9
Eastern Upper Peninsula	45,866	51,041	5,175	11.3
Central Upper Peninsula	182,390	177,692	-4,698	-2.6
Western Upper Peninsula	91,501	85,182	-6,319	-6.9

Source: U.S. Bureau of Census
Michigan Department of Management and Budget

Note: 1990 Census Data

TABLE I.B

1990 POPULATION DISTRIBUTION BY SERVICE DELIVERY AREA

Area	Population Level	Percent Distribution
Michigan	9,295 297	100.0
Barry-Branch-Calhoun	227,541	2.4
Berrien-Cass-Van Buren	280,915	3.0
Lansing Tri-County	432,674	4.7
City of Detroit	1,027,974	11.1
Thumb Area	205,145	2.2
CAPC	203,689	2.2
Region II	284,663	3.1
Kalamazoo-St. Joseph	282,324	3.0
Kent County	500,631	5.4
Washtenaw County	282,937	3.0
Livingston County	115,645	1.2
Macomb-St. Clair	863,007	9.3
Saginaw-Midland Bay	399,320	4.3
Downriver-Monroe	486,082	5.2
Oakland County (Balance)	857,252	9.2
Muskegon-Oceana	181,437	2.0
Allegan-Ottawa	278,277	3.0
Pontiac Area	226,340	2.4
Genesee-Shiawassee	500,229	5.4
Wayne County (Balance)	731,231	7.9
Region 7B	130,445	1.4
West Central Michigan	129,776	1.4
Northeast Michigan	122,886	1.3
Northwest Michigan	230,962	2.5
Eastern Upper Peninsula	51,041	0.5
Central Upper Peninsula	177,692	1.9
Western Upper Peninsula	85,182	0.9

Source: U.S. Bureau of the Census
Michigan Department of Management and Budget

Note: 1990 Census Data

POPULATION CHARACTERISTICS

Understanding general population characteristics is essential for human resource planning and development. Characteristics of the general population are a function of the special populations addressed in most human resource programs and, therefore, have important implications for both current and future employment and training policy.

The state's population developments in terms of age will have significant impact on labor force participation. Between 1980 and 1990, the state's overall population on average grew older. The median age of Michigan's residents increased from 28.9 years in 1980 to 32.6 years in 1990.

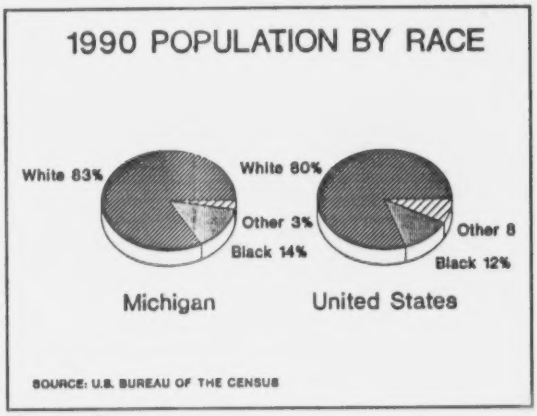


Figure 3

Significant growth occurred in the 25-54 and the 65+ age cohorts. The under 5 years age group also recorded a gain over the period. If labor force participation rates remain unchanged then the most notable impact will be greater labor force growth in the 25-54 age group. Major population declines occurred in the 5-24 and 55-64 year old categories. Declines in the 5-24 year old group may possibly result in fewer young labor force participants and subsequently cause labor shortages in certain occupations traditionally staffed by new entrants.

In terms of racial makeup, Michigan's population includes a slightly higher proportion of whites and blacks than nationwide while other minority races are less represented. Michigan's 1990 racial distribution was 83.4 percent white, 13.9 percent black and 2.7 percent other races, compared to the national distribution of 80.3 percent white, 12.1 percent black and 7.6 percent other races. The state's hispanic population, at 2.2 percent of total, is significantly less well represented than it is nationally, at nine percent.

TABLE I.C

DEMOGRAPHIC POPULATION CHARACTERISTICS
MICHIGAN
1980 - 1990

Area	1980	1990	Number Change 80-90	Percent Change 80-90
Total	9,262,078	9,295,297	33,219	0.4
Sex				
Male	4,514,957	4,512,781	-2,176	--
Female	4,747,121	4,782,516	35,395	0.7
Race/Ethnic				
White	7,893,278	7,756,086	-137,192	-1.7
Black	1,197,177	1,291,706	94,529	7.9
American Indian	44,919	55,638	10,719	0.9
Asian/Pacific Islander	62,641	104,983	42,342	67.6
Other	64,063	86,884	22,821	35.6
Hispanic	157,626	201,596	43,970	27.9
Age				
Under 5	684,234	702,554	18,320	2.7
5-17	2,068,134	1,756,211	-311,923	-15.1
18-24	1,255,670	1,004,527	-251,143	-20.0
25-54	3,478,623	3,928,821	450,198	12.9
55-64	864,030	794,723	-69,307	-8.0
65+	911,387	1,108,461	197,074	21.6
Median Age	28.9	32.6		

Source: U.S. Bureau of the Census

ECONOMICALLY DISADVANTAGED POPULATION

An economically disadvantaged person is an individual who receives welfare, or has an income below the current poverty level, or receives food stamps, or is a handicapped adult whose own income is below poverty. Reasons for poverty vary throughout the state. Some reasons may include inadequate education, inadequate job skills, poor labor market conditions, an inadequate labor exchange system, poor job access, etc. The economically disadvantaged is a primary target population for various types of employment, training and other social service programs. Relevant data are essential for the planning and development of programs which effectively address the needs of the target population.

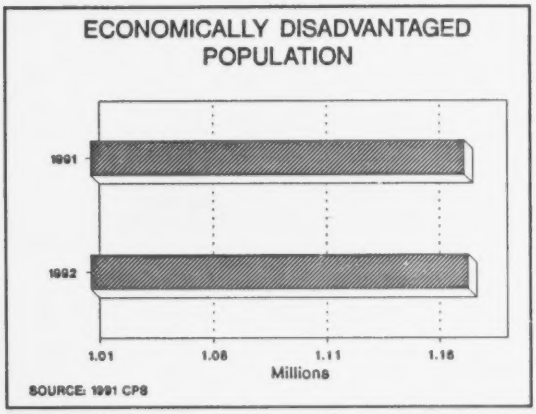


Figure 4

The MESC, Bureau of Research and Statistics prepares estimates of the economically disadvantaged population for the state and its 27 service delivery areas. The latest estimate for 1992 indicate 1,176,397 persons in the state is economically disadvantaged. The data also reflect nearly 6 out of 10 economically disadvantaged persons are female. In addition, nearly half of the state's disadvantaged population reside in the eight county southeastern region which includes the Detroit/Ann Arbor Consolidated Metropolitan Area.

Between 1991 and 1992, the state's economically disadvantaged population increased slightly by two-tenths of a percentage point. Over the year increases were recorded in all except two (Detroit City and Livingston County) service delivery areas. The most significant increase occurred in Washtenaw County which rose by 1,204 or 3.3 percent.

TABLE I.D

ECONOMICALLY DISADVANTAGED POPULATION FOR MICHIGAN AND SERVICE DELIVERY AREAS 1991 - 1992

Area	Econ. Dis. Population 1991	Econ. Dis. Population 1992	1991 - 1992 Change Number	Percent
Michigan	1,174,546	1,176,397	1,851	0.2
Barry-Branch-Calhoun	27,915	28,328	413	1.5
Berrien-Cass-Van Buren	43,810	43,860	50	0.1
Lansing Tri-County	54,246	55,223	977	1.8
City of Detroit	320,157	309,298	- 10,859	- 3.4
Thumb Area	24,841	25,418	577	2.3
CAPC	24,023	24,630	607	2.5
Region II	30,109	30,628	519	1.7
Kalamazoo-St. Joseph	32,793	33,398	605	1.8
Kent County	45,312	45,814	502	1.1
Washtenaw County	36,677	37,881	1,204	3.3
Livingston County	5,394	4,894	- 500	- 9.3
Macomb-St. Clair	62,209	63,588	1,379	2.2
Saginaw-Midland Bay	55,999	56,277	278	0.5
Downriver-Monroe	43,331	44,178	847	2.0
Oakland County (Balance)	44,469	45,466	997	2.2
Muskegon-Oceana	26,999	27,291	292	1.1
Allegan-Ottawa	21,061	21.545	484	2.3
Pontiac Area	24,312	24,461	149	0.6
Genesee-Shiawassee	63,005	63,358	353	0.6
Wayne County (Balance)	59,685	60,044	359	0.6
Region 7B	19,641	20,016	375	1.9
West Central Michigan	19,593	19,978	385	2.0
Northeast Michigan	17,553	17,893	340	1.9
Northwest Michigan	27,248	27,833	585	2.1
Eastern Upper Peninsula	6,400	6,549	149	2.3
Central Upper Peninsula	24,407	24,950	543	2.2
Western Upper Peninsula	13,357	13,598	241	1.8

Source: U.S. Bureau of the Census
Michigan Department of Management and Budget

LABOR FORCE

LABOR FORCE TRENDS

Changes in the size of the civilian labor force and its component parts of employed and unemployed follow trends in population and economic development. Labor force information can be used by human resource planners to gauge the number of individuals experiencing unemployment problems and to increase the responsiveness of training programs to changing conditions and contribute to the attainment of social and economic goals of the local area and the state.

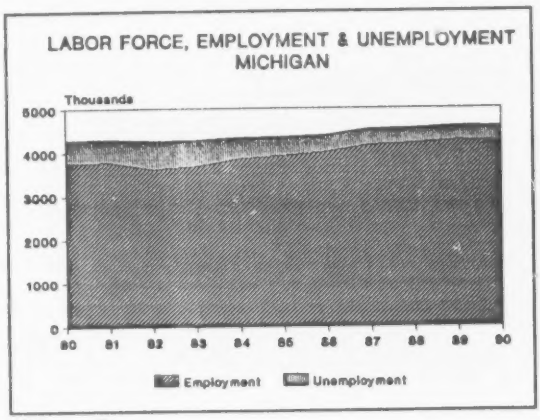


Figure 5

The state's labor market continues a slowdown in growth that began in the early 1980's. The largest labor force growth, 10.3 percent, occurred over the 1975-80 period. During the 1980-90 period, the labor force grew by 6.6 percent. This reduced growth can be attributed to the 1980-82 recession which severely affected labor market conditions in Michigan. The state's labor market conditions began to improve after 1982 and by 1990 employment had increased by 617,000. Strong employment growth resulted in a significant unemployment rate decline, from a high of 15.5 percent in 1982 to 7.1 percent in 1989. During the 1990-91 period labor market conditions deteriorated as employment declined and the unemployment rate averaged 7.5 and 9.2 percent, respectively. The economy continued to be weak in 1991, as employment averaged nearly 2.6 percent below the 1990 level, while unemployment averaged 9.2 percent. The economy began to rebound in late 1992 and by 1993 the unemployment rate averaged seven percent, the lowest so far for the decade.

LABOR FORCE CHARACTERISTICS

Changes in the labor force reflect changes in population composition as well as changes in labor force participation patterns. Several major trends in population demographics will be reflected in the state's labor force. The demographic distribution of the labor force will generally become older with more women, black and hispanic participants. Overall men will experience a decline in their representation in the work force, while women are expected to post increases, but at a declining rate. Non-hispanic white males will post significant declines based on a drop in the number of young white males born during 1965-1978, and also as a result of continuing decreases in the labor force participation rates of older white males. In terms of age, the share of the workforce aged 16 to 34 and 55 years and older is projected to decline while 35 to 54 year olds are expected to increase. The following brief discussion of major groups reflect labor force trends by age, sex and race between 1991 and 1992.

Women

The prime age female labor force has consistently been the fastest growing group. In Michigan, over the 1980-1990 period, the adult female labor force participation rate increased by more than six points, as their labor force ranks swelled by approximately 303,000. Between 1991-92, adult female labor force participation increased nearly one percentage point. As the state's labor market expanded, employment among adult women increased by 55,000. Their unemployment rate, however, edged up from 7.7 to 7.8 percent as employment gains lagged behind labor force expansion.

Youth

During the 1980-90 period, the state's teenage labor force dropped by 22.1 percent, the largest decline of any labor force group. Historically, teenagers have faced considerable competition for jobs. Labor market conditions overall have not significantly improved for teenage workers. During the 1980-90 period, employment declined by 63,000 as double-digit unemployment rates continued. As labor market conditions improved somewhat during 1991-92, the youth unemployment rate declined from 22.2 to 20.5 percent.

Seniors 55+

During the 1980-90 period, the senior labor force declined by 7.3 percent. The seniors were one of two labor force groups (the other was teenagers) which experienced decline over the 1980-90 period. This group generally experiences one of the lowest unemployment rates of any labor force group. Between 1991-92, the unemployment rate for seniors was relatively unchanged, edging up from 4.9 percent to 5.0 percent. It appears that out-migration of seniors continues to decline as population levels are up over the year by 1.3 percent. Senior employment levels also posted a significant increase of 2.9 percent over the year.

Black 20+

The black labor force continued to grow faster than the white labor force over the 1980-90 period. The black labor force expanded by 16.9 percent compared to 8.7 percent for white. During the decade, labor market conditions for blacks were significantly improved as their unemployment rate declined seven points to 14.4 percent in 1990. However, this group continues to experience sharply higher relative rates of unemployment. Estimated black unemployment rates were more than twice as high than those for whites during the 1991-92 period. With continued high unemployment, labor force participation between 1991 and 1992 declined in this group as unemployed blacks withdrew from the job market.

TABLE II.A

LABOR FORCE CHARACTERISTICS
MICHIGAN - 1991 AND 1992
(Data in Thousands)

	1992	1991	Number Change	Percent Change
Total 16+				
Population	7,038	7,017	21	0.3
Labor Force	4,610	4,543	67	1.5
LF Participation Rate	65.5	64.7	0.8	xxx
Employment	4,205	4,125	80	1.9
Unemployment	405	418	-13	-3.1
Rate (percent)	8.8	9.2	-0.4	xxx
Men 20+				
Population	3,119	3,108	11	0.4
Labor Force	2,378	2,357	21	0.9
LF Participation Rate	76.2	75.8	0.4	xxx
Employment	2,184	2,152	32	1.5
Unemployment	194	205	11	5.4
Rate (percent)	8.2	8.7	-0.5	xxx
Women 20+				
Population	3,419	3,379	40	1.2
Labor Force	1,939	1,878	61	3.2
LF Participation Rate	56.7	55.6	1.1	xxx
Employment	1,788	1,733	55	3.2
Unemployment	151	145	6	4.1
Rate (percent)	7.8	7.7	0.1	xxx
Youth 16-19				
Population	500	530	-30	-5.7
Labor Force	294	308	-14	-4.5
LF Participation Rate	58.8	58.1	0.7	xxx
Employment	234	240	-6	-2.5
Unemployment	60	68	-8	-11.8
Rate (percent)	20.5	22.2	-1.7	xxx

TABLE II.A (Concluded)

LABOR FORCE CHARACTERISTICS
MICHIGAN - 1991 AND 1992
(Data in Thousands)

	1992	1991	Number Change	Percent Change
Seniors 55+				
Population	1,913	1,889	24	1.3
Labor Force	525	510	15	2.9
LF Participation Rate	27.4	27.0	0.4	xxx
Employment	499	485	14	2.9
Unemployment	26	25	1	0.4
Rate (percent)	5.0	4.9	0.1	xxx
White 20+				
Population	5,604	5,554	50	0.9
Labor Force	3,762	3,683	79	2.1
LF Participation Rate	67.1	66.3	0.8	xxx
Employment	3,500	3,430	70	2.0
Unemployment	261	253	8	3.1
Rate (percent)	6.9	6.9	--	xxx
Black 20+				
Population	817	823	-6	-0.7
Labor Force	476	483	-7	-1.4
LF Participation Rate	58.3	58.7	-0.4	xxx
Employment	400	393	7	1.8
Unemployment	76	90	-14	-15.6
Rate (percent)	16.0	18.6	-2.6	xxx

Source: Current Population Survey - Michigan
Research and Statistics

TABLE II.B

LABOR FORCE ADJUSTED ECONOMICALLY DISADVANTAGED
MICHIGAN
1992

	Number	Percent Distribution
Total 16+	718,427	100.0
Male	319,356	44.5
Female	399,071	55.5
Age Group		
16-19	72,327	10.1
20-21	55,207	7.7
22-54	532,395	74.1
55-64	48,454	6.7
65 +	10,046	1.4
Race/Ethnic		
White	500,330	69.6
Black	187,682	26.1
American Indian	7,299	1.0
Asian/Pacific Island	4,992	0.7
Hispanic	18,124	2.5

Source: Michigan Employment Security Commission
Bureau of Research and Statistics

ECONOMICALLY DISADVANTAGED - LABOR FORCE ADJUSTED

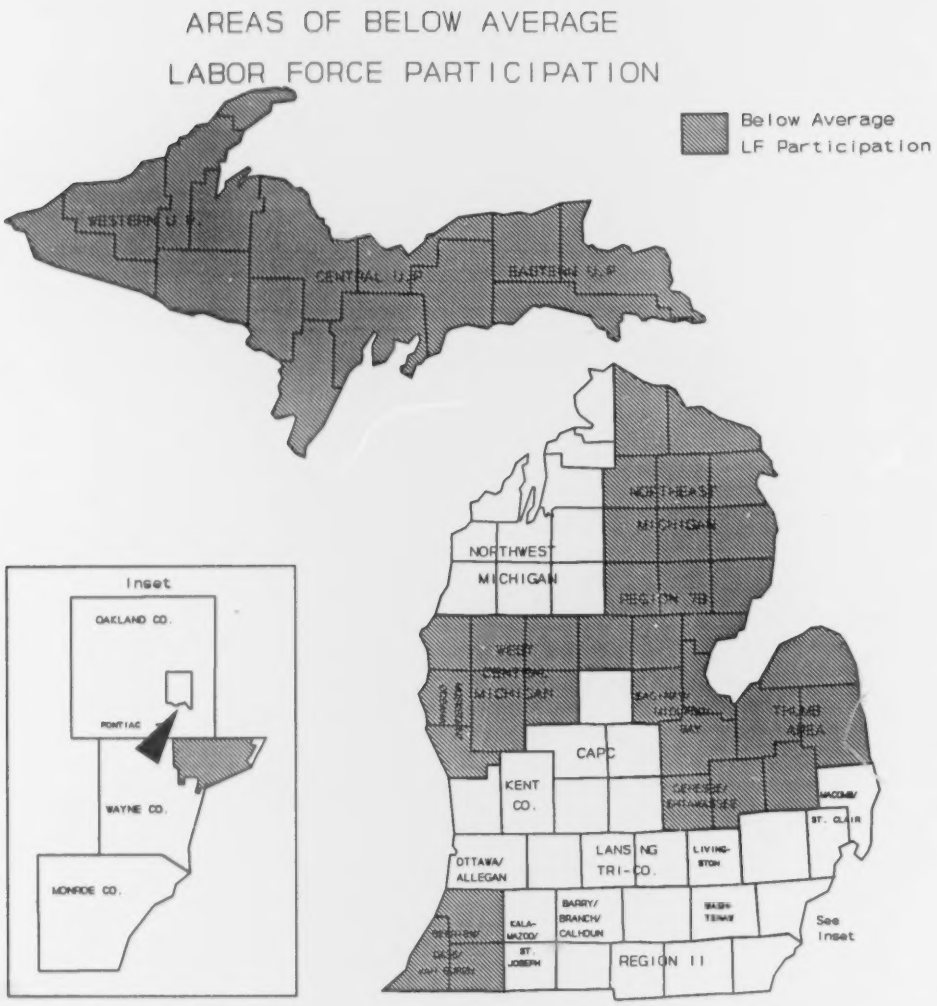
The following tables provide information on the economically disadvantaged population adjusted for potential labor force participation. The labor force adjusted concept assumes similar labor force participation of the economically disadvantaged population as the general population. It is an important planning guide since the labor force rather than the population more closely reflects the disadvantaged who are more likely to be active in the job market and, therefore, to avail themselves of JTPA services.

The demographic characteristics of the labor force economically disadvantaged are similar to the demographics reflected in other poverty-related data discussed earlier. When compared to the general population profile, there is a greater representation specifically of females and minorities among the poor. The Michigan 1992 estimate of labor force adjusted economically disadvantaged reflects 53 percent female and over 26 percent black compared to the general labor force population of 45 percent female and 11 percent black.

Table II.C provides comparison of economically disadvantaged labor force and population for the state and SDA's. Basically, this reflects labor force participation among the areas. Participation ranges from a low of 51 percent to a high of 72 percent. There exists a variety of barriers to labor force participation. Some include inadequate education, skills, poor economic conditions, poor labor exchange system, poor public transportation system, etc.

Generally those areas that have relatively low labor force participation rates are areas which experience a variety of barriers to a significant degree. Usually the problems will include poor economic conditions, dependency on one or two highly seasonal or cyclical industry sectors, poor economic development, and an ineffective education and training system. Figure 6 illustrates 12 areas with rates lower than the statewide average of 61 percent. These areas are located for the most part in the upper peninsula, the northeastern upper and middle part of the lower peninsula and the southwest portion of the lower peninsula.

In contrast, the two highest labor force participation areas, Washtenaw and Lansing Tri-County, have experienced very positive population, labor force and employment trends. These areas are generally characterized by a strong local economy, strong economic development, well diversified industry employment base, and an effective education and training network. If an area is to experience some degree of economic well-being, then these crucial areas of activity must be well coordinated and integrated to achieve optimal benefits.



Note: SDAs located in inset include City of Detroit, Balance of Wayne County, Monroe - DCC, Pontiac Consortium and Balance of Oakland County

Figure 6

TABLE II.C

ECONOMICALLY DISADVANTAGED POPULATION AND LABOR FORCE
1992

	Econ. Dis. Labor Force	Econ. Dis. Population	Econ. Dis. LF / Pop. (%)
Michigan	718,427	1,176,397	61
Barry-Branch-Calhoun	18,313	28,328	65
Berrien-Cass-Van Buren	25,398	43,860	58
Lansing-Tri-County	39,636	55,223	72
City of Detroit	168,450	309,298	54
Thumb Area	15,500	25,418	61
CAPC	15,969	24,630	65
Region II	19,037	30,628	62
Kalamazoo-St. Joseph	22,925	33,398	69
Kent County	30,555	45,814	67
Washtenaw County	26,834	37,881	71
Livingston County	3,430	4,894	70
Macomb-St. Clair	40,511	63,588	64
Saginaw-Midland-Bay	33,608	56,277	60
Downriver-Monroe	27,330	44,178	62
Oakland County (Balance)	29,906	45,466	66
Muskegon-Oceana	16,178	27,291	59
Allegan-Ottawa	14,246	21,545	66
Pontiac Area	16,086	24,461	66
Genesee-Shiawassee	38,157	63,358	60
Wayne County (Balance)	36,511	60,044	61
Region 7B	10,216	20,016	51
West Central Michigan	11,361	19,978	57
Northeast Michigan	10,217	17,893	57
Northwest Michigan	16,820	27,833	60
Eastern Upper Peninsula	3,801	6,549	58
Central Upper Peninsula	14,340	24,950	57
Western Upper Peninsula	7,350	13,598	54

Source: Michigan Employment Security Commission
Bureau of Research and Statistics

LABOR FORCE PROJECTIONS - STATEWIDE

The state's labor market situation is expected to improve through PY 1994. Overall employment is expected to increase by approximately 156,000 or 3.7 percent. This will more than offset an expected 2.4 percent growth in the labor force and consequently drive down the unemployment rate from 7.7 percent in PY 1992 to 6.6 percent in PY 1994.

TABLE II.D

LABOR FORCE PROJECTIONS
MICHIGAN
(Data in Thousands)

	PY 1992 7/92-6/93	PY 1993 7/93-6/94	PY 1994 7/94-6/95
Labor Force	4,625	4,690	4,735
Employment	4,269	4,371	4,425
Unemployment	356	319	311
Rate (percent)	7.7	6.8	6.6

Source: Michigan Employment Security Commission
Research and Statistics

LABOR FORCE PROJECTIONS - REGIONAL

Table II.E provides PY 1992 through PY 1994 unemployment rates for the state and SDA's. Generally, the PY 1994 area rates are expected to range from a low of 4.1 percent for the Balance of Wayne County SDA to a high of 13.3 percent for the City of Detroit SDA. Four SDA's are expected to experience double-digit unemployment. Labor market conditions in most of these areas continue to be more heavily impacted by plant closings, slow economic development and industry diversification and in some cases inadequate human resource development.

TABLE II.E

UNEMPLOYMENT RATE PROJECTIONS
MICHIGAN AND SDA'S
PY 1992 - PY 1994

	PY 1992	PY 1993	PY 1994
Michigan	7.7	6.8	6.6
Barry-Branch-Calhoun	7.4	7.2	7.0
Berrien-Cass-Van Buren	8.2	8.1	8.1
Lansing Tri-County	5.4	5.8	4.5
City of Detroit	15.0	14.1	13.3
Thumb Area	9.8	9.0	8.6
CAPC	8.2	7.7	7.2
Region II	8.3	8.1	7.9
Kalamazoo-St. Joseph	5.4	5.4	5.5
Kent County	6.2	5.8	5.7
Washtenaw County	4.3	6.6	5.9
Livingston County	5.7	5.0	5.0
Macomb-St. Clair	7.5	6.6	6.2
Saginaw-Midland-Bay	7.3	8.0	8.7
Downriver-Monroe	6.3	5.8	5.4
Oakland County (Balance)	5.3	4.9	5.2
Muskegon-Oceana	11.0	10.1	9.9
Allegan-Ottawa	5.1	4.7	4.6
Pontiac Area	9.0	8.3	8.8
Genesee-Shiawassee	10.4	10.2	10.5
Wayne County (Balance)	4.6	4.3	4.1
Region 7B	9.7	9.2	8.4
West Central Michigan	9.1	8.3	8.0
Northeast Michigan	12.6	12.0	10.5
Northwest Michigan	9.4	8.7	8.0
Eastern Upper Peninsula	12.3	11.2	10.3
Central Upper Peninsula	8.8	8.5	8.4
Western Upper Peninsula	9.5	8.9	8.6

Source: Michigan Employment Security Commission

INDUSTRY EMPLOYMENT

PLANNING APPLICATIONS

Knowledge of the structure and trends of employment by industry in Michigan is vital to program planners for several reasons. The number of jobs supplied by private and public employers in the state during 1992 totalled 3.9 million, or over 93 percent of total state employment. A detailed breakdown of these jobs gives a planner a basic understanding of the state's economy, and answers a variety of questions, such as:

- Which industries employ the most workers ?
- Which industries are recording the fastest job growth ?
- How do wages differ among industrial categories ?
- What is the outlook for employment change by industry ?

From the broadest perspective, such as the impact of projected national economic developments on industry employment in Michigan, to narrow and specific planning information, such as the historical pattern of job growth in one of the state's detailed industrial categories, industry employment information is of value to anyone in the business or employment and training community.

INDUSTRY STRUCTURE

The manufacturing sector has historically been the major source of industry employment in Michigan. During 1978, nearly a third of industry jobs were in manufacturing. With over 400,000 jobs in motor vehicle manufacturing, Michigan supplied over 40 percent of auto jobs nationwide. The motor vehicle, machinery, and metals industries provided 859,000 jobs in Michigan during 1978, or nearly two-thirds of total manufacturing employment.

The well-documented events of the last decade, with plant closings and mass layoffs in these industries due to the impact of a national recession, foreign competition, outmoded manufacturing facilities, and the reduced labor requirements of modern production facilities, combined to slash employment in these industries and throughout the manufacturing sector. Following six consecutive years of employment decline, jobs in the motor vehicle industry edged up in 1992 to 270,000. This is still fewer auto jobs than Michigan had during the depths of the recession of the 1980s.

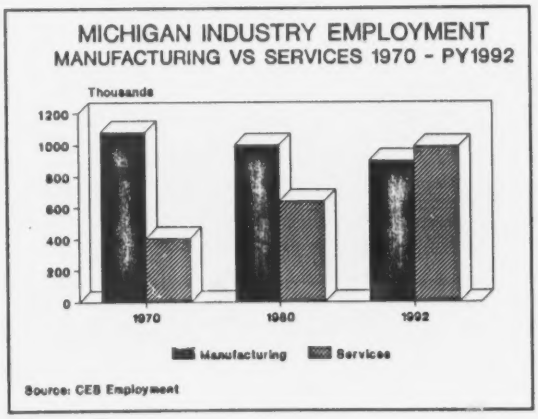


Figure 7

By PY 1992, these developments had sharply reduced manufacturing jobs to less than one-quarter of Michigan's industry employment. In fact, the service industry employed more workers than the manufacturing sector in Michigan in PY 1992. As Figure 7 demonstrates, just

over 20 years ago service jobs amounted to well under half of manufacturing employment.

Despite this shift in employment structure, the manufacturing sector in PY 1992 was still an important source of Michigan jobs. As Figure 8 illustrates, Michigan manufacturing still contributed a substantially higher proportion of jobs than nationally. The manufacturing and retail sectors accounted for 41 percent of state jobs, well in excess of the national share of about 34 percent.

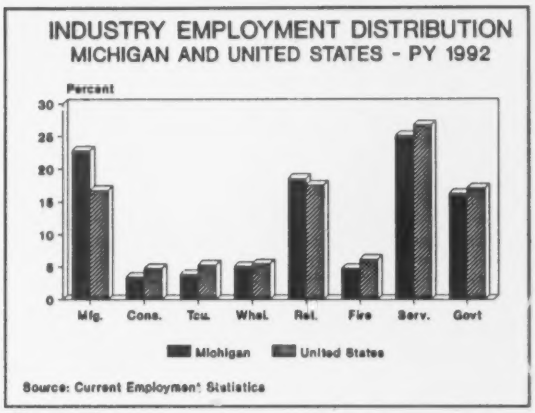


Figure 8

A more detailed examination of the industry structure of employment is possible using information from the MESC employer database, the ES-202. Table III.A presents total state private employment for the third quarter 1992 by 2-digit Standard Industrial Code (SIC). Detailed industry employment data reveals to planners the specific sources of employment in diverse sectors such as retail trade and services. It is also helpful in identifying the largest industry employers in Michigan. Such industries, because of their large size, will generate many job openings even if they are not experiencing net employment growth. As about one-third of industries in Michigan lost jobs during PY 1992, job openings resulting from turnover were particularly important.

TABLE III.A

PRIVATE INDUSTRY EMPLOYMENT ANALYSIS
STATE OF MICHIGAN - THIRD QUARTER 1992

SIC	Industry Title	Number	Percent of Total
	Total	3,329,852	100.0
01	Agricultural Production-Crops	17,235	0.5
02	Agricultural Production-Livestock	1,994	0.1
07	Agricultural Services	21,754	0.7
08	Forestry	P	P
09	Fishing, Hunting and Trapping	P	P
10	Metal Mining	3,220	0.1
13	Oil and Gas Extraction	3,056	0.1
14	Nonmetallic Mining, Except Fuels	2,846	0.1
15	General Building Contractors	32,878	1.0
16	Heavy Construction, Except Bldg.	14,128	0.4
17	Special Trade Contractors	94,474	2.8
20	Food and Kindred Products	47,701	1.4
22	Textile Mill Products	1,607	0.0
23	Apparel, Other Textile Products	16,619	0.5
24	Lumber and Wood Products	15,207	0.5
25	Furniture and Fixtures	33,759	1.0
26	Paper and Allied Products	21,278	0.6
27	Printing and Publishing	44,941	1.3
28	Chemicals and Allied Products	45,494	1.4
29	Petroleum and Coal Products	2,057	0.1
30	Rubber, Misc. Plastic Products	52,381	1.6
31	Leather and Leather Products	3,086	0.1
32	Stone, Clay and Glass Products	16,879	0.5
33	Primary Metal Industries	37,057	1.1
34	Fabricated Metal Products	113,570	3.4
35	Industrial Machinery and Computer	116,457	3.5
36	Electronic, Electric Equipment	29,607	0.9
37	Transportation Equipment	282,893	8.5
38	Instruments and Related Products	17,347	0.5
39	Miscellaneous Manufacturing Inds.	7,643	0.2
40	Railroad Transportation	P	P
41	Local, Interurban Pass. Transit	6,103	0.2
42	Trucking and Warehousing	46,180	1.4
44	Water Transportation	2,353	0.1
45	Transportation by Air	16,323	0.5
46	Pipelines, Except Natural Gas	P	P

TABLE III.A (Concluded)

PRIVATE INDUSTRY EMPLOYMENT ANALYSIS
STATE OF MICHIGAN - THIRD QUARTER 1992

SIC	Industry Title	Number	Percent of Total
47	Transportation Services	11,060	0.3
48	Communications	31,996	1.0
49	Electric, Gas and Sanitary Svcs.	33,907	1.0
50	Wholesale Trade-Durable Goods	129,355	3.9
51	Wholesale Trade-Nondurable Goods	74,340	2.2
52	Bldg. Materials and Garden Supp.	31,964	1.0
53	General Merchandise Stores	115,932	3.5
54	Food Stores	101,969	3.1
55	Auto Dealers and Service Stations	76,049	2.3
56	Apparel and Accessory Stores	37,991	1.1
57	Furniture and Homefurnishings	27,346	0.8
58	Eating and Drinking Places	263,539	7.9
59	Miscellaneous Retail Trade Stores	85,156	2.6
60	Depository Institutions	70,267	2.1
61	Nondepository Institutions	11,693	0.4
62	Security and Commodity Brokers	6,112	0.2
63	Insurance Carriers	41,871	1.3
64	Insurance Agents, Brokers & Svc.	19,888	0.6
65	Real Estate	35,331	1.1
67	Holding, Other Investment Offices	6,174	0.2
70	Hotels and Other Lodging Places	37,133	1.1
72	Personal Services	38,732	1.2
73	Business Services	199,673	6.0
75	Auto Repair, Services and Parking	31,971	1.0
76	Miscellaneous Repair Services	12,598	0.4
78	Motion Picture and Video Services	12,306	0.4
79	Amusement and Recreation Services	42,577	1.3
80	Health Services	323,593	9.7
81	Legal Services	25,726	0.8
82	Educational Services	25,490	0.8
83	Social Services	67,930	2.0
84	Museums, Botanical, Zool. Gardens	1,877	0.1
86	Membership Organizations	41,277	1.2
87	Engineering and Management Svcs.	81,535	2.4
88	Private Households	4,345	0.1
89	Services, N.E.C.	1,633	0.0

Source: Michigan Employment Security Commission
Research and Statistics - ES-202
P - Protected Information

Table III.B lists the top ten private industry employers during the third quarter 1992. Transportation equipment had been the top industry employer in Michigan for about 70 years, due to the concentration of auto jobs in the state. However, during 1990 the rapidly expanding health services industry became the state's top employer. Over one quarter of Michigan private jobs were concentrated in only three industries; health services, transportation equipment, and eating and drinking places. In addition, the ten industries in Table III.B contributed over half of Michigan private industry employment.

TABLE III.B

TOP TEN PRIVATE INDUSTRY EMPLOYERS
STATE OF MICHIGAN - THIRD QUARTER 1992

SIC	Industry Title	Number	Percent
	Total	3,329,852	100.0
80	Health Services	323,593	9.7
37	Transportation Equipment	282,893	8.5
58	Eating and Drinking Places	263,539	7.9
73	Business Services	199,673	6.0
50	Wholesale Trade-Durable Goods	129,355	3.9
35	Industrial Machinery and Computer	116,457	3.5
53	General Merchandise Stores	115,932	3.5
34	Fabricated Metal Products	113,570	3.4
54	Food Stores	101,969	3.1
17	Special Trade Contractors	94,474	2.8

Source: Michigan Employment Security Commission
Research and Statistics - ES-202

ECONOMIC IMPACT OF INDUSTRY STRUCTURE

The structure of industry employment in a state or region has clear economic implications. The level and growth of an area's personal income, the local impact of national economic expansions or contractions and the severity of unemployment and job dislocation are all affected by an area's distribution of jobs by industry. Such impacts cannot be understood with knowledge of broad industry compositions alone, rather a more detailed analysis is helpful to explain area economic differences. A good example of this is a detailed comparison of the proportion of manufacturing employment in Michigan's SDAs.

Table III.C illustrates the proportion of employment by area supplied by the manufacturing sector. The highest proportion of jobs in manufacturing are found in southern and central Michigan while the northern SDA's have substantially lower proportions of factory jobs. As Table III.C illustrates, the range of employment provided by the manufacturing sector is substantial, from a high of 39 percent in the Ottawa-Allegan SDA to only five percent in the Eastern Upper Peninsula.

Although a large proportion of manufacturing jobs is generally associated with a vulnerability to economic downturns and high unemployment, there are notable exceptions. Over half of the SDAs in Michigan with lower than average jobless rates had a higher than average proportion of manufacturing jobs. Kalamazoo-St. Joseph, Kent County, and Ottawa-Allegan had lower than average jobless rates during PY 1992 of approximately 5-6 percent due in part to a strong and balanced manufacturing base as well as job growth in the service-producing sector.

Those SDAs with high unemployment rates and a greater than average share of manufacturing jobs, such as the Flint, Detroit City, Muskegon, Pontiac, and Thumb Area SDAs, tend to be more reliant on manufacturing industries which have experienced structural declines in employment, and have a low concentration of jobs in high growth industries. These areas are also characterized by chronic unemployment and relatively low levels of educational attainment as reflected in their higher than average high school dropout rates.

Differences are also apparent among SDAs with a below average share of jobs from manufacturing. Most are non-metropolitan SDAs characterized by lower than average wage levels and high seasonal unemployment. In contrast, the Washtenaw County, Balance of Oakland County, and Lansing SDAs have a lower than average share of manufacturing jobs due to rapidly growing service sectors and substantial government employment. These three areas are characterized by higher than average wage levels and educational attainment, and low rates of unemployment.

Clearly, a general outline of the industrial structure of employment is useful, but specific knowledge of the detailed industries which supply large numbers of jobs is necessary to draw conclusions about an area's employment prospects. When combined with relevant data such as income, unemployment rates, wages and industry employment trends, a more complete outline of overall economic conditions is possible.

TABLE III.C

MANUFACTURING PROPORTION OF TOTAL JOBS MICHIGAN AND SDA's

Area	Percent
Ottawa-Allegan	39
Macomb-St. Clair	33
Berrien-Cass-Van Buren	29
Genesee-Shiawassee	28
Region II	28
Kalamazoo-St. Joseph	27
Barry-Branch-Calhoun	27
Muskegon-Oceana	26
Saginaw-Bay-Midland	26
Thumb Area	26
Kent County	25
Monroe County	25
Michigan	23
West Central Michigan	23
Wayne County	22
Livingston County	22
Washtenaw County	21
CAPC	21
Northwest Michigan	18
Oakland County	17
Central Upper Peninsula	16
Region 7B	15
Northeast Michigan	14
Lansing Tri-County	14
Western Upper Peninsula	11
Eastern Upper Peninsula	5

Source: Michigan Employment Security Commission
Research and Statistics

INDUSTRY TRENDS

Table III.D provides data on statewide industry employment levels from PY 1988 to PY 1992. 34 of the 60 detailed industries published in Table III.D recorded job growth from PY 1988 to PY 1992. As a result, private employment edged upward by 52,000 or 1.6 percent since PY 1988. Industry employment rebounded in PY 1992 as the recent job losses in construction and manufacturing ended and as job growth occurred in the retail and service sectors.

Table III.D reflects several noteworthy developments in industry employment. First, mining and construction employment have declined sharply since PY 1988, with the reduction in construction jobs related to the cancellation of many planned projects since PY 1989 as credit tightened and economic growth slowed. The drop in mining jobs in Table III.D primarily reflects layoffs in the state's oil and gas extraction industry.

In the manufacturing sector, 12 of the published 18 industries suffered employment declines from PY 1988 - PY 1992. The transportation equipment and related industries, such as apparel (where automotive trim employment is dominant in Michigan), metals, and machinery suffered major job losses over this period. The "Big Three" automakers cut payrolls as car sales fell and revenue and profits from their domestic auto operations declined. Suppliers to the auto industry were faced with the task of maintaining or improving parts quality, requiring substantial labor and capital investment, while complying with automaker requirements for price cuts on their products. This resulted in layoffs among suppliers to cut costs and plant closings among those unable to compete.

Within manufacturing, only the chemicals industry has managed to record consistent job growth over the last four years. The printing, plastics, and miscellaneous durables manufacturing industries have recorded generally positive long-term employment trends. However, less than 20 percent of the growth industries in Michigan during this period were manufacturers, and they contributed only 3.0 percent of the total job additions generated by expanding industries. Conversely, manufacturing industries with declining employment accounted for almost two-thirds of total industry jobs lost over the period.

The private service producing sector added over 130,000 jobs to the Michigan economy since PY 1988, with strong growth during PY 1989 and PY 1992. Since PY 1988, job expansion ranged from a high of 11.3 percent in services to under 3 percent growth in most of the other broad service producing industries. Since PY 1989 however, job growth in this sector was restricted to the service industry, as most other service producing sector industries lost jobs. Service industry employment increased each of the last four years due to gains in health, business, and social services. During PY 1992, just under two-thirds of service producing industries shown in Table III.D experienced employment growth, with 30,000 additional jobs in services and 7,000 additional retail jobs.

TABLE III.D

AREA INDUSTRY EMPLOYMENT TRENDS
MICHIGAN

Industry Name	SIC	PY 1988	PY 1989	PY 1990	PY 1991	PY 1992	PY 88-92 Chg. Num.	PY 88-92 Chg. Per.
Mining	10-14	10,445	10,213	9,042	8,760	8,394	-2,051	-19.6
Metal Mining	10	3,313	3,343	2,683	3,136	3,177	-136	-4.1
Oil and Gas Extraction	13	4,217	4,089	3,676	3,083	2,689	-1,528	-36.2
Nonmet. Ming. Ex. Fuel	14	2,915	2,781	2,683	2,541	2,528	-387	-13.3
Construction	15-17	135,119	143,690	134,941	128,143	128,659	-6,460	-4.8
General Building Cont.	15	32,910	35,091	31,800	30,137	29,599	-3,311	-10.1
Heavy Const. Ex. Bldg.	16	13,113	13,509	12,829	12,199	12,530	-583	-4.4
Special Trade Cont.	17	89,096	95,090	90,312	85,807	86,530	-2,566	-2.9
Manufacturing	20-39	969,947	954,865	916,123	898,114	899,588	-70,359	-7.3
Food Products	20	45,599	44,869	44,556	43,544	43,810	-1,789	-3.9
Tobacco Products	21	P	P	P	P	P	P	P
Textiles	22	1,430	1,440	1,388	1,452	1,567	137	9.6
Apparel	23	21,245	20,330	17,401	16,450	15,925	-5,320	-25.0
Lumber/Wood Products	24	15,834	15,145	14,715	14,540	14,815	-1,019	-6.4
Furniture and Fixtures	25	35,031	35,413	34,791	33,593	34,243	-788	-2.2
Paper Products	26	20,990	21,266	20,682	20,868	20,400	-590	-2.8
Printing	27	43,770	44,740	45,072	44,608	45,043	1,273	2.9
Chemicals	28	43,606	44,444	44,659	44,802	45,976	2,370	5.4
Refining	29	P	P	P	P	P	P	P
Rubber and Plastics	30	53,561	53,405	50,725	51,182	53,812	251	0.5
Leather Products	31	2,634	2,778	2,803	3,109	3,457	823	31.2
Stone, Clay, Glass	32	17,143	17,317	16,845	16,285	15,937	-1,206	-7.0
Primary Metals	33	45,971	43,022	39,723	37,407	36,200	-9,771	-21.3
Fabricated Metals	34	123,798	122,567	115,063	113,556	115,555	-8,243	-6.7
Indust Mach & Computer	35	125,162	128,550	124,027	116,051	115,482	-9,680	-7.7
Electrical Equipment	36	34,713	33,212	30,552	29,703	30,498	-4,215	-12.1
Transportation Eqpt.	37	312,849	298,986	285,813	284,494	280,391	-32,458	-10.4
Instruments	38	17,236	17,772	17,603	17,041	16,869	-367	-2.1
Miscellaneous Durables	39	7,291	7,559	7,611	7,352	7,638	347	4.8
Trans., Commun., Utils	40-49	153,964	157,213	156,605	153,592	154,478	514	0.3
Railroads	40	P	P	P	P	P	P	P
Local/Interurban Tran.	41	5,363	5,900	5,953	6,144	6,457	1,094	20.4
Trucking/Warehousing	42	45,583	46,166	45,705	44,997	46,278	695	1.5
Air Transportation	45	15,704	17,314	17,446	16,893	16,416	712	4.5

TABLE III.D (Continued)

AREA INDUSTRY EMPLOYMENT TRENDS
MICHIGAN

Industry Name	SIC	PY 1988	PY 1989	PY 1990	PY 1991	PY 1992	PY 88-92 Chg. Num.	PY 88-92 Chg. Per.
Pipelines, Exc. Gas	46	P	P	P	P	P	P	P
Transportation Svcs.	47	9,326	10,224	10,978	10,945	10,949	1,623	17.4
Communications	48	34,727	34,651	33,605	32,378	31,309	-3,418	-9.8
Elec., Gas, San. Svcs.	49	33,385	33,175	33,272	33,051	34,015	630	1.9
Wholesale Trade	50-51	193,747	199,455	200,995	199,003	199,961	6,214	3.2
Wholesale Durables	50	124,884	128,144	129,096	127,016	125,031	147	0.1
Wholesale Nondurables	51	68,863	71,311	71,899	71,987	74,930	6,067	8.8
Retail Trade	52-59	714,068	740,780	741,346	727,756	734,821	20,753	2.9
Building, Hdw., Garden	52	30,049	30,762	30,206	30,284	31,455	1,406	4.7
Department Stores	53	107,903	117,771	119,683	115,953	116,433	8,530	7.9
Food Stores	54	101,894	104,855	103,901	100,748	101,477	-417	-0.4
Auto Dlrs. & Gas Sta.	55	79,222	79,038	77,398	75,661	75,813	-3,409	-4.3
Apparel & Accessories	56	41,944	41,735	40,537	37,999	36,590	-5,354	-12.8
Furniture Stores	57	28,237	28,889	28,623	27,866	27,395	-842	-3.0
Eating & Drinking	58	243,171	253,978	256,001	254,056	259,444	16,273	6.7
Misc. Retail Stores	59	81,648	83,752	84,997	85,189	86,214	4,566	5.6
Finance, Ins., Real Est	60-67	185,898	189,871	190,231	189,535	188,313	2,415	1.3
Banking	60	73,581	73,703	72,075	70,516	69,499	-4,082	-5.5
Credit Agencies	61	10,022	10,124	10,308	10,789	10,810	788	7.9
Sec. & Comm. Brokers	62	P	P	P	P	P	P	P
Insurance Carriers	63	43,170	42,766	43,002	42,855	41,309	-1,861	-4.3
Ins. Agents & Brokers	64	18,384	19,153	19,402	19,702	19,270	886	4.8
Real Estate	65	30,716	33,494	34,158	33,801	35,075	4,359	14.2
Holding & Investment	67	P	P	P	P	P	P	P
Services	70-89	887,410	930,591	941,914	958,264	988,107	100,697	11.3
Agricultural Services	7	14,160	15,565	16,233	16,191	16,357	2,197	15.5
Hotels and Lodging	70	33,316	35,884	35,124	33,913	33,924	608	1.8
Personal Services	72	37,942	39,629	39,943	39,831	40,046	2,104	5.5
Business Services	73	170,866	175,822	174,224	180,052	193,606	22,740	13.3
Auto Repair & Parking	75	30,124	32,929	32,083	31,979	32,461	2,337	7.8
Misc. Repair Services	76	14,081	14,578	12,646	12,352	12,357	-1,724	-12.2
Motion Pict. & Video Rent.	78	9,691	10,710	11,651	11,893	12,127	2,436	25.1
Amusement & Recreation	79	31,933	34,890	35,436	36,305	38,421	6,488	20.3

TABLE III.D (Concluded)

AREA INDUSTRY EMPLOYMENT TRENDS
MICHIGAN

Industry Name	SIC	PY 1988	PY 1989	PY 1990	PY 1991	PY 1992	PY 88-92 Chg. Num.	PY 88-92 Chg. Per.
Health Services	80	287,021	300,067	311,512	320,834	328,276	41,255	14.4
Legal Services	81	24,781	25,579	25,534	25,528	24,867	86	0.3
Educational Services	82	34,830	36,124	37,379	37,229	38,083	3,253	9.3
Social Services	83	55,456	60,184	63,468	65,913	69,559	14,103	25.4
Membership Orgs.	86	61,804	63,016	63,654	64,680	65,459	3,655	5.9
Engr. & Mgmt. Svcs.	87	78,441	82,501	79,849	78,331	79,482	1,041	1.3
Services, N.E.C.	89	2,964	3,113	3,178	3,233	3,082	118	4.0
Areawide Total		3,250,598	3,326,678	3,291,197	3,263,167	3,302,321	51,723	1.6

Source: Michigan Employment Security Commission
Current Employment Statistics

P - Protected Information

Tables III.E and III.F identify for human resource planners Michigan's high growth private industries since PY 1988. Table III.E ranks industries by numerical employment increase, and also displays each industry's rate of job growth since PY 1988 and average hourly earnings in 1992. These ten industries accounted for 81 percent of the total job gain recorded by all industries registering employment increases from PY 1988 to PY 1992. The health service industry alone contributed over one-third of the total job additions among industries with employment growth. Continued health service job growth is expected due to an aging population and the rapid development of new treatments based on technological advances.

TABLE III.E

TOP TEN MICHIGAN INDUSTRIES RANKED BY NUMERICAL JOB GROWTH PY 1988 - PY 1992

Industry	Numerical	Percent	1991 Average Hourly Earnings
Health Services	41,255	14.4	$ 11.62
Business Services	22,740	13.3	9.93
Eating and Drinking Places	16,273	6.7	NA
Social Services	14,103	25.4	7.81
Department Stores	8,530	7.9	7.20
Amusement & Recreation Services	6,488	20.3	7.44
Wholesale - Nondurables	6,067	8.8	12.29
Misc. Retail Stores	4,566	5.6	7.05
Real Estate	4,359	14.2	NA
Membership Organizations	3,655	5.9	NA

Source: Michigan Employment Security Commission
Current Employment Statistics

Eight of the ten industries in Table III.E are in the service (5) or retail (3) sectors. The diversity in wages demonstrates that not all service producing sector industries are "low-wage low-skill". Additionally, although high numerical job advances do not imply fast rates of growth, half of these industries recorded percentage job gains in excess of 10 percent.

Table III.F ranks the top ten industries in Michigan by rate of employment growth. Although some of these industries are small, most added a minimum of 1,000 jobs over four years. These ten industries contributed nearly half of the employment gain recorded by all industries with job growth since PY 1988. Nine of the ten fastest growing employers were in services (5), finance and real estate (2), and transportation (2).

TABLE III.F

TOP TEN MICHIGAN INDUSTRIES RANKED BY PERCENTAGE JOB GROWTH PY 1988 - PY 1992

Industry	Percent	Numerical
Holding & Other Investment	P	P
Leather Products	P	P
Social Services	25.4	14,103
Motion Pictures & Video Rental	25.1	2,436
Local Interurban Transit	20.4	1,094
Amusement & Recreation Services	20.3	6,488
Transportation Services	17.4	1,623
Agricultural Services	15.5	2,197
Health Services	14.4	41,255
Real Estate	14.2	4,359

Source: Michigan Employment Security Commission
Current Employment Statistics

P - Protected Information

Four industries, health services, social services, amusement and recreation services, and real estate were among the top ten state industries in both the number and rate of job creation over the past four years. Employment trends in these industries are generally healthy, and most have employment patterns which are generally affected less than average by the cyclical Michigan economy.

This partially explains why the service producing sector and these specific industries have outperformed most industries in employment expansion. The health services industry has ben a major source of new jobs nationally and in Michigan, with gains in hospitals and nursing care facilities, physician and dental offices, and in the expanding home health care industry. Nearly four in ten social service jobs were in the growing residential care industry. Private residential care jobs have multiplied with the increased need for group housing for an expanding population of elderly citizens. The shift away from the institutionalization of mentally handicapped persons towards placement in privately-owned, state regulated group homes has also been a factor. Additionally, private social service firms or agencies engaged in providing individual or family services, job training and vocational rehabilitation, and child day care have all experienced job growth in Michigan. Amusement and recreation service firms expand as population rises and as residents and tourists increasingly spend their discretionary income on these services. Real estate employment is more closely tied to economic conditions, and is affected by trends in local

housing markets. The substantial reduction in home mortgage interest rates has offset the negative impact of the slow economic recovery on this industry.

INDUSTRY PROJECTIONS

Table III.G presents projections of statewide industry employment for PY 1993 and PY 1994. Steady but modest growth in industry jobs is projected in Michigan through PY 1994. No net job expansion is expected in the manufacturing sector, however, where a small decline in jobs is anticipated as moderate gains in some industries are offset by a continuing reduction in jobs in the auto industry. Auto industry job cuts, particularly in PY 1993, have been announced which will lower production and salaried employment. Construction jobs, however, should rebound during PY 1993 with an improving local economy and low interest rates. The service producing sector will continue to create most of Michigan's employment growth, increasing by 132,000 jobs or 4.5 percent from PY 1992 - PY 1994. The service industry should provide two-thirds of this increase, with employment expansion projected in business, health, social, amusement and recreation, and engineering and consulting services. Slow to moderate job gains through PY 1994 are projected for the other major sectors of the service producing industry.

TABLE III.G

INDUSTRY EMPLOYMENT PROJECTIONS
MICHIGAN
(Data in Thousands)

	PY 1992 (Actual)	PY 1993 (Projected)	PY 1994 (Projected)	PY 92 TO PY 94 Number	PY 92 TO PY 94 Percent
Total	3,944	4,011	4,075	131	3.3
Goods Producing	1,037	1,037	1,037	0	0.0
Manufacturing	900	894	892	-8	-0.9
Const. & Mining	138	143	145	7	5.1
Service Producing	2,907	2,973	3,039	132	4.5
Trans., Comm., Ut.,	155	156	157	2	1.3
Wholesale Trade	200	201	202	2	1.0
Retail Trade	736	740	744	8	1.1
Fin., Ins., R.E.	188	192	195	7	3.7
Services	988	1,039	1,090	102	10.3
Government	641	645	650	9	1.4

Source: Michigan Employment Security Commission

OCCUPATIONAL EMPLOYMENT

OCCUPATIONAL FORECASTS TO YEAR 2000

The Michigan Employment Security Commission (MESC) generates detailed statistics on projected occupational employment and related information on occupational demand and supply for Michigan and many of its subregions. The appendix of this report contains a detailed table of occupational projections for Michigan for the period 1988-2000.

Michigan projections call for total occupational employment, which includes wage and salary jobs as well as agriculture and self employment, to reach nearly 4.6 million by year 2000. The 448,975 jobs expected to be added to the state's economy between 1988 and 2000 represent a growth rate of 11 percent. With future job growth expected to be concentrated in the private service producing industries, the occupational forecasts call for rapid expansion in the white collar and service worker groups.

Professional and technical workers represent the state's fastest growing occupational group, with a projected increase of 20 percent by the year 2000. Other white collar groups, reflecting very strong growth patterns include the managerial and sales fields. Service workers represent the second fastest growth area. Jobs in this area are expected to increase 18 percent between 1988-2000. Expansion in the administrative support group which includes clerical workers is expected to be somewhat slower than average.

The blue collar occupations will experience only limited expansion given the no growth scenario in manufacturing. The best blue collar job prospects are in the craft and repair fields where employment is projected to show a 4 percent increase to the year 2000.

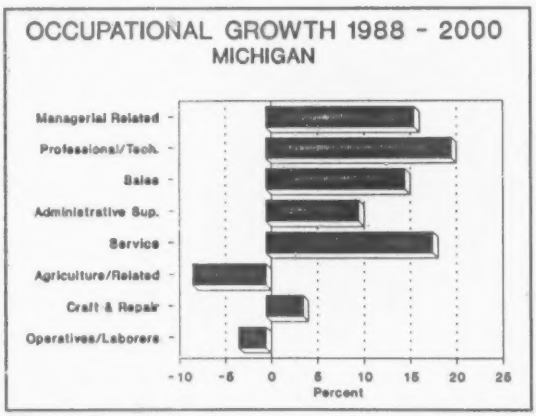


Figure 9

Jobs for operators, fabricators, and laborers are expected to decline, reflecting the trend in manufacturing employment. Occupations in this area experiencing growth include plastic molding and casting operators, woodworking machine setters, printing and binding machine operators. Those areas most severely affected by employment declines include occupations in machine work, metal fabricating, handworking occupations including assemblers.

Looking at expected employment trends in more detail, the health services field is expected to show very rapid growth, creating strong demand in practically the entire spectrum of health occupations. Occupations in this sector experiencing significant growth include home health aides, medical assistants, nursing aides and orderlies.

In the professional technical related occupations, computer applications will continue to expand and employment opportunities should be very good for systems personnel, programmers and computer repair occupations. With the increased emphasis on product development and

improved manufacturing processes, the outlook is favorable for several engineering fields. The widespread application of electronics technology should result in rapid growth for both engineers and technicians in this field.

Several other occupational areas will reflect good employment opportunities. The legal area shows good growth potential for professionals and legal assistants and law clerks. Expansion in protective services is expected to be strong with substantial employment gains forecast for corrections officers and security guards. Rapid employment growth is forecast in the food service industry covering a wide range of restaurant and fast food workers.

In data related occupations, employment of accountants should continue to move up rapidly. Although automated accounting systems will have a negative impact on employment opportunities for bookkeepers and accounting technicians, this large field is expected to generate a substantial number of job openings.

The widespread use of computerized word processing equipment has slowed expansion in the secretarial field. However, the large secretarial employment base should continue to fuel demand and produce a favorable hiring pattern.

TABLE IV.A

MICHIGAN
OCCUPATIONS WITH THE MOST JOB GAINS
1988 - 2000

General Managers/Administrators
Retail Sales Workers and Cashiers
Registered Nurses
Waiters/Waitresses
Janitors/Cleaners
Security Guards
General Office Clerks
Licensed Practical Nurses
Secretaries and Receptionists
Truck Drivers
Food Preparation and Counter Workers
Computer Programmers and Systems Analysts
Nursing Aides/Orderlies
Electrical and Electronic Engineers
Teachers, Secondary School
Home Health Aides
Maintenance Repairers, General Utility
Lawyers
Medical Assistants
Cooks, Restaurant
Child Care Workers

JTPA TARGET POPULATION

TABLE V.A

TITLE II ELIGIBLE POPULATION
LABOR FORCE ADJUSTED ECONOMICALLY DISADVANTAGED
MICHIGAN
1992

	Total Economically Disadvantaged	Labor Force Adjusted Economically Disadvantaged	
		Number	Percent Distribution
Total 14+	1,176,397	718,427	100.0
Male	458,754	319,356	44.5
Female	717,643	399,071	55.5
Age Group			
14-15	57,721	NA	NA
16-19	130,858	72,327	10.1
20-21	76,550	55,207	7.7
22-54	687,708	532,395	74.1
55-64	104,730	48,454	6.7
65 +	118,830	10,046	1.4
Race/Ethnic			
White	773,373	500,330	69.6
Black	353,946	187,682	26.1
American Indian	11,818	7,299	1.0
Asian/Pacific	8,110	4,992	0.7
Hispanic	29,150	18,124	2.5

Source: Michigan Employment Security Commission

Note: Labor force data applies only to persons 16 years old and older.

TABLE V.B

ECONOMICALLY DISADVANTAGED ELIGIBLE POPULATION
MICHIGAN
1992

	Total	White	Black	Amer. Indian	Asian/ Pac. Is.	Hispanic
Total 14+						
Total	1,176,397	773,373	353,946	11,818	8,110	29,150
14 - 15	57,721	29,958	24,481	644	488	2,150
16 - 19	130,858	77,279	46,822	1,839	601	4,317
20 - 21	76,550	51,391	21,904	850	516	1,889
22 - 44	578,423	391,200	160,826	6,495	4,913	14,989
45 - 54	109,285	70,559	34,264	810	588	3,064
55 - 64	104,730	60,001	42,020	504	398	1,807
65 +	118,830	92,985	23,629	676	606	934
Men						
Total	458,754	307,085	128,923	5,605	4,361	12,780
14 - 15	30,179	16,199	12,167	411	296	1,106
16 - 19	61,711	38,195	20,036	872	288	2,320
20 - 21	31,624	23,053	7,259	354	301	657
22 - 44	219,477	149,257	58,466	3,014	2,689	6,051
45 - 54	42,281	28,395	11,767	402	301	1,416
55 - 64	36,916	24,380	11,185	245	222	884
65 +	36,566	27,606	8,043	307	264	346
Women						
Total	717,643	466,288	225,023	6,213	3,749	16,370
14 - 15	27,542	13,759	12,314	233	192	1,044
16 - 19	69,147	39,084	26,786	967	313	1,997
20 - 21	44,926	28,338	14,645	496	215	1,232
22 - 44	358,946	241,943	102,360	3,481	2,224	8,938
45 - 54	67,004	42,164	22,497	408	287	1,648
55 - 64	67,814	35,621	30,835	259	176	923
65 +	82,264	65,379	15,586	369	342	588

Source: Michigan Employment Security Commission

TABLE V.C

ECONOMICALLY DISADVANTAGED ELIGIBLE LABOR FORCE
MICHIGAN
1992

	Total	White	Black	Amer. Indian	Asian/ Pac. Is.	Hispanic
Total 14+						
Total	718,428	500,330	187,683	7,299	4,992	18,124
14 - 15	0	0	0	0	0	0
16 - 19	72,326	48,113	20,706	952	239	2,316
20 - 21	55,207	40,346	12,746	581	286	1,248
22 - 44	449,702	318,682	111,190	4,902	3,678	11,250
45 - 54	82,692	54,938	24,345	597	492	2,320
55 - 64	48,455	30,420	16,695	209	222	909
65 +	10,046	7,831	2,001	58	75	81
Men						
Total	319,358	226,573	76,948	3,932	2,978	8,927
14 - 15	0	0	0	0	0	0
16 - 19	34,922	23,490	9,537	503	114	1,278
20 - 21	24,615	18,612	5,065	277	154	507
22 - 44	196,418	139,391	46,802	2,651	2,227	5,347
45 - 54	37,467	26,098	9,519	339	285	1,226
55 - 64	21,435	15,531	5,100	125	148	531
65 +	4,501	3,451	925	37	50	38
Women						
Total	399,070	273,757	110,735	3,367	2,014	9,197
14 - 15	0	0	0	0	0	0
16 - 19	37,404	24,623	11,169	449	125	1,038
20 - 21	30,592	21,734	7,681	304	132	741
22 - 44	253,284	179,291	64,388	2,251	1,451	5,903
45 - 54	45,225	28,840	14,826	258	207	1,094
55 - 64	27,020	14,889	11,595	84	74	378
65 +	5,545	4,380	1,076	21	25	43

Source: Michigan Employment Security Commission

TABLE V.D

HANDICAPPED POPULATION
MICHIGAN

		In Labor Force		Not in Labor Force Able to Work	
	Total	Total	Econ. Disadv.	Total	Econ. Disadv.
Total 16+	312,825	214,413	80,737	98,411	58,406
Male	169,924	127,876	40,170	42,048	17,633
Female	142,901	86,537	40,567	56,363	40,772
16-19	11,356	7,155	6,382	4,200	4,051
20-21	7,749	6,016	3,887	1,733	1,584
22-44	133,555	111,415	45,880	22,139	18,990
45-54	53,723	44,650	13,721	9,073	7,599
55-64	51,916	33,335	8,435	18,581	11,160
65+	54,523	11,840	2,430	42,682	15,019
White	263,270	180,523	63,128	82,747	45,909
Black	43,315	28,854	14,826	14,460	11,408
American Indian	2,711	2,317	1,275	394	391
Asian/Pacific	3,528	2,718	1,507	810	698
Hispanic	4,953	3,852	2,095	1,101	912

Source: Bureau of the Census - 1990

TABLE V.E

HIGH SCHOOL DROPOUTS
MICHIGAN

	Total	Economically Disadvantaged
Total 16+	1,365,559	339,246
Male	659,984	146,276
Female	705,575	192,970
16-21	89,168	36,708
22-64	795,138	221,034
65+	481,253	81,504
White	1,068,355	220,380
Black	258,004	106,456
American Indian	10,996	4,366
Asian/Pacific	28,203	8,043
Hispanic	36,533	10,416

Source: Bureau of the Census - 1990

TABLE V.F

TEENAGE PARENTS
BY SERVICE DELIVERY AREA

Area	Total	Economically Disadvantaged
Barry-Branch-Calhoun	338	206
Berrien-Cass-Van Buren	908	501
Lansing Tri-County	754	474
City of Detroit	6,201	4,254
Thumb Area	396	219
CAPC	411	200
Region II	673	448
Kalamazoo-St. Joseph	525	398
Kent County	889	587
Washtenaw County	470	342
Livingston County	154	46
Macomb-St. Clair	839	349
Saginaw-Midland-Bay	1,185	745
Downriver-Monroe	1,011	388
Oakland County (Balance)	457	202
Muskegon-Oceana	407	159
Allegan-Ottawa	473	217
Pontiac Area	718	553
Genesee-Shiawassee	1,366	973
Wayne County (Balance)	818	406
Region 7B	195	95
West Central Michigan	236	144
Northeast Michigan	162	60
Northwest Michigan	420	300
Eastern Upper Peninsula	86	59
Central Upper Peninsula	250	154
Western Upper Peninsula	69	38
State of Michigan	20,411	12,517

Source: Bureau of the Census - 1990

TABLE V.G

LIMITED ENGLISH PROFICIENCY BY SERVICE DELIVERY AREA

Area	Total	Economically Disadvantaged
Barry-Branch-Calhoun	976	360
Berrien-Cass-Van Buren	1,394	459
Lansing Tri-County	3,004	1,348
City of Detroit	9,978	4,580
Thumb Area	613	224
CAPC	1,174	248
Region II	1,338	388
Kalamazoo-St. Joseph	1,101	330
Kent County	4,830	1,585
Washtenaw County	1,601	601
Livingston County	178	0
Macomb-St. Clair	7,687	1,214
Saginaw-Midland-Bay	1,893	420
Downriver-Monroe	3,011	725
Oakland County (Balance)	8,879	2,472
Muskegon-Oceana	831	337
Allegan-Ottawa	3,356	557
Pontiac Area	1,151	501
Genesee-Shiawassee	1,849	454
Wayne County (Balance)	9,384	2,946
Region 7B	534	180
West Central Michigan	557	149
Northeast Michigan	466	72
Northwest Michigan	684	135
Eastern Upper Peninsula	117	45
Central Upper Peninsula	510	172
Western Upper Peninsula	283	131
State of Michigan	67,379	20,633

Source: Bureau of the Census - 1990

TABLE V.H

ALCOHOLICS AND ADDICTS
SUBSTANCE ABUSE ADMISSIONS
FISCAL YEAR 1991/1992

Area	Total Admissions
Barry-Branch-Calhoun	1,775
Berrien-Cass-Van Buren	2,067
Lansing Tri-County	3,659
City of Detroit	10,924
Thumb Area	1,420
CAPC	1,392
Region II	1,930
Kalamazoo-St. Joseph	4,063
Kent County	6,565
Washtenaw County	1,867
Livingston County	728
Macomb-St. Clair	5,326
Saginaw-Midland-Bay	2,597
Downriver-Monroe (*)	845
Oakland County (Balance) (*)	5,339
Muskegon-Oceana	2,256
Allegan-Ottawa	2,818
Pontiac Area	NA
Genesee-Shiawassee	4,372
Wayne County (Balance) (#)	6,180
Region 7B	1,029
West Central Michigan	1,050
Northeast Michigan	1,027
Northwest Michigan	1,633
Eastern Upper Peninsula	764
Central Upper Peninsula	2,403
Western Upper Peninsula	970
State of Michigan	74,999

Source: Michigan Department of Public Health

(*) Estimates are for county only, not SDA.
(#) Wayne County minus the city of Detroit.

TABLE V.I

OFFENDERS
BY SERVICE DELIVERY AREA
MAY 1993

Area	Total	Parolees	Correction Center
Barry-Branch-Calhoun	1,463	347	1,116
Berrien-Cass-Van Buren	1,658	417	1,241
Lansing Tri-County	1,776	341	1,435
City of Detroit	17,567	5,034	12,533
Thumb Area	493	95	398
CAPC	1,039	199	840
Region II	2,484	592	1,892
Kalamazoo-St. Joseph	2,014	502	1,512
Kent County	3,352	862	2,490
Washtenaw County	1,629	475	1,154
Livingston County	348	95	253
Macomb-St. Clair	2,252	610	1,642
Saginaw-Midland-Bay	2,275	505	1,770
Downriver-Monroe (*)	565	154	411
Oakland County (*)	5,350	1,585	3,765
Muskegon-Oceana	1,855	483	1,372
Allegan-Ottawa	701	172	529
Pontiac Area	NA	NA	NA
Genesee-Shiawassee	3,596	802	2,794
Wayne County (*)	939	189	750
Region 7B	328	68	260
West Central Michigan	479	113	366
Northeast Michigan	386	76	310
Northwest Michigan	795	161	634
Eastern Upper Peninsula	207	36	171
Central Upper Peninsula	399	84	315
Western Upper Peninsula	108	30	78
State of Michigan	54,058	14,027	40,031

Source: Michigan Department of Corrections
Data does not reflect total inmate population.

(*) Estimates are for county only, not SDA.

TABLE V.J

VETERANS
BY SERVICE DELIVERY AREA

	Veteran Population		Veteran Labor Force	
	Total	Econ. Disadv.	Total	Econ. Disadv.
Barry-Branch-Calhoun	26,919	3,479	17,598	1,635
Berrien-Cass-Van Buren	32,695	4,171	21,675	1,928
Lansing Tri-County	39,996	4,135	28,520	2,279
City of Detroit	93,252	24,289	53,612	10,123
Thumb Area	22,032	3,404	14,339	1,460
CAPC	19,983	3,309	12,985	1,546
Region II	29,874	3,495	19,540	1,577
Kalamazoo-St. Joseph	29,403	3,579	20,275	1,604
Kent County	46,894	4,073	33,647	1,967
Washtenaw County	23,331	1,488	18,316	654
Livingston County	13,259	939	9,809	447
Macomb-St. Clair	99,484	9,060	67,957	4,115
Saginaw-Midland-Bay	41,801	6,390	26,406	2,718
Downriver-Monroe	58,684	6,268	39,300	2,658
Oakland County (Balance)	86,510	5,556	62,804	2,652
Muskegon-Oceana	21,052	3,096	13,916	1,572
Allegan-Ottawa	26,583	2,461	19,175	1,211
Pontiac Area	21,722	2,695	14,988	992
Genesee-Shiawassee	54,526	9,365	34,970	3,946
Wayne County (Balance)	79,848	6,583	53,556	2,759
Region 7B	17,505	4,513	8,266	1,465
West Central Michigan	14,778	2,634	8,916	1,055
Northeast Michigan	17,656	3,283	8,949	1,231
Northwest Michigan	28,832	4,681	17,343	1,904
Eastern Upper Peninsula	6,754	1,341	3,668	500
Central Upper Peninsula	23,137	3,951	13,740	1,525
Western Upper Peninsula	11,679	2,025	6,084	582
State of Michigan	988,194	130,269	650,357	56,111

Source: Bureau of the Census - 1990

TABLE V.K

DISPLACED HOMEMAKERS BY SERVICE DELIVERY AREA

Area	Total	Economically Disadvantaged
Barry-Branch-Calhoun	2,216	1,463
Berrien-Cass Van Buren	2,706	1,775
Lansing Tri-County	1,990	1,241
City of Detroit	31,028	22,776
Thumb Area	1,358	821
CAPC	1,160	681
Region II	2,416	1,272
Kalamazoo-St. Joseph	1,520	847
Kent County	2,127	1,167
Washtenaw County	972	538
Livingston County	615	301
Macomb-St. Clair	4,575	1,777
Saginaw-Midland-Bay	4,143	2,657
Downriver-Monroe	4,466	2,261
Oakland County (Balance)	3,258	1,571
Muskegon-Oceana	1,842	1,116
Allegan-Ottawa	955	381
Pontiac Area	1,742	1,189
Genesee-Shiawassee	6,256	3,802
Wayne County (Balance)	5,061	2,645
Region 7B	1,286	794
West Central Michigan	855	412
Northeast Michigan	1,018	436
Northwest Michigan	1,604	676
Eastern Upper Peninsula	466	241
Central Upper Peninsula	1,085	526
Western Upper Peninsula	573	272
State of Michigan	87,293	53,638

Source: Bureau of the Census - 1990

TABLE V.L

RATIO OF GOVERNMENT TO WAGE AND SALARY EMPLOYMENT BY SERVICE DELIVERY AREA 1992

Area	Total	Private	Government	Percent
Barry-Branch-Calhoun	81,475	64,375	17,100	21
Berrien-Cass-Van Buren	94,050	77,625	16,425	17
Lansing Tri-County	215,000	146,300	68,700	32
City of Detroit	NA	NA	NA	NA
Thumb Area	51,250	38,575	12,675	24
CAPC	66,225	47,875	18,350	28
Region II	97,725	79,075	18,650	19
Kalamazoo-St. Joseph	135,600	114,150	21,450	16
Kent County	275,675	253,250	22,425	8
Washtenaw County	176,900	120,600	56,300	32
Livingston County	28,575	24,825	3,750	13
Macomb-St. Clair	329,075	289,000	40,075	12
Saginaw-Midland-Bay	164,700	142,900	21,800	13
Downriver-Monroe (*)	34,250	28,675	5,575	16
Oakland County (*)	597,100	547,375	49,725	8
Muskegon-Oceana	61,825	50,625	11,200	18
Allegan-Ottawa	114,900	101,125	13,775	12
Pontiac Area	NA	NA	NA	NA
Genesee-Shiawassee	181,550	153,950	27,600	15
Wayne County (*)	826,550	710,125	116,425	14
Region 7B	34,175	25,175	9,000	26
West Central Michigan	37,825	26,725	11,100	29
Northeast Michigan	39,775	31,225	8,550	21
Northwest Michigan	96,375	80,400	15,975	17
Eastern Upper Peninsula	19,375	12,450	6,925	36
Central Upper Peninsula	68,250	51,300	16,950	25
Western Upper Peninsula	28,750	19,200	9,550	33
State of Michigan	3,917,000	3,276,000	641,000	16

Source: Michigan Employment Security Commission

Note: The State of Michigan total is an independent estimate.
The SDA estimates do not sum to the state.
(*) Estimates are for county only, not SDA.

TABLE V.M

RATIO OF PRIVATE EMPLOYMENT TO POPULATION BY SERVICE DELIVERY AREA 1992

Area	Percent
Barry-Branch-Calhoun	28
Berrien-Cass-Van Buren	28
Lansing Tri-County	34
City of Detroit	NA
Thumb Area	19
CAPC	23
Region II	28
Kalamazoo-St. Joseph	39
Kent County	50
Washtenaw County	42
Livingston County	21
Macomb-St. Clair	33
Saginaw-Midland-Bay	36
Downriver-Monroe (*)	21
Oakland County (*)	50
Muskegon-Oceana	28
Allegan-Ottawa	35
Pontiac Area	NA
Genesee-Shiawassee	31
Wayne County (*)	34
Region 7B	19
West Central Michigan	20
Northeast Michigan	25
Northwest Michigan	34
Eastern Upper Peninsula	24
Central Upper Peninsula	29
Western Upper Peninsula	22
State of Michigan	35

Source: Michigan Employment Security Commission

(*) Estimates are for county only, not SDA.

TABLE V.N

WELFARE REGISTRANTS
MICHIGAN
OCTOBER 1993

	Registrants
Total	390,471
Female	277,436
Male	113,035
14-15	36
16-19	42,464
20-21	25,576
22-44	250,971
45-54	29,559
55-64	15,139
65+	26,726
White	191,737
Black	175,778
American Indian	1,568
Asian/Pacific	10,465
Hispanic	10,923

Source: Michigan Department of Social Services, AFDC, SFA and GA Registrants (includes students and elderly).

TABLE DESCRIPTIONS

TABLE DESCRIPTIONS

Following is a discussion of basic data elements presented in the annual planning information report. The data elements are divided into several major groups: (1) general planning information which covers data on industry, occupation and labor force; (2) the eligible population which covers the economically disadvantaged; (3) those target groups covered by the Title II "ten percent provision"; (4) special JTPA tables which cover data specifically required in the legislation. Those tables based on census data were generated from the 1990 Public Use Microdata Sample (PUMS) files. Following each data element is a discussion of issues involved, particularly definitions and data availability.

General Planning Information Tables

Civilian Labor Force

Civilian labor force estimates for PY 1994 are available for the state, labor market areas and service delivery areas. Except for the state, information is available for mutually exclusive categories by sex, age and race.

Total labor force, employment and unemployment forecasts were based upon area population and industry employment trends. Distributions by age, race, sex and geographic detail were derived using 1990 census information.

Private Industry Employment Analysis

This information is not part of this supplemental package, but is provided in the planning report. This information is based on the ES-202 listing of all employers covered by the Michigan Employment Security Act. This listing covers over 90 percent of all employers doing business in Michigan. The major groups which are wholly or partially excluded are railroad employees, commission sales workers, unpaid family workers and government.

Industry employment figures are provided for the total SDA. In some instances, information for counties within a multi-county SDA may be available upon request. Since this data is not available below the county level, sub-county SDA's are provided with their respective county level information. Average employment levels are presented by two digit Standard Industrial Classification Codes for the latest quarter available. The absolute change in employment over the year is also shown. Data for some industries have been excluded to prevent disclosure of confidential information. Since this employment data represents the most current count of jobs by place of work at the county level, it is useful in analyzing local area employment structure and trends.

Title II Eligible Population Tables

Handicapped

A handicapped individual is defined as an individual who has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment. The information in this table is derived from 1990 Census data. The table presents demographic characteristics on the total handicapped population. Additional information is provided for both total and economically disadvantaged handicapped individuals, in the labor force and not in the labor force but able to work. Census information for the handicapped reflect those persons that have a physical, mental, or other health condition that has lasted six months or more. This definition differs significantly from the 1980 census definition where handicapped persons were defined as having a public transportation disability. Information in the table is only available for the total SDA.

JTPA Title II Eligible Population

This table contains estimates of the economically disadvantaged population and labor force in 1992. Further detail, cross-tabulated by age, race and sex is also provided. The data were developed by linking forward the 1980 Census information using the March 1992 Current Population Survey for Michigan. This table provides a profile of the disadvantaged adjusted by age/race/sex for potential labor force participation. That is, the last column in the table depicts the disadvantaged assuming that they were to participate in the labor force to the same extent as the general population. This is an important planning guide since it more closely reflects the disadvantaged who are likely to be active in the job market and, therefore, to avail themselves of JTPA services. This table provides demographic detail for each service delivery area in total. County breakouts will be available only as percent distribution of SDA totals.

School Dropouts

In addition to the ten percent provision, services to school dropouts are also mandated under Section 203(b),3 as an "equitable service" item and under Section 205(b),1 as a priority item. According to JTPA legislation, a school dropout is an individual who is: (1) not attending any school and is not subject to a compulsory attendance law, and (2) who has not received a secondary school diploma or a certificate from a program of equivalency for such a diploma.

The information in this table is derived from 1990 Census data, and provides demographic characteristics for school dropouts who are 16 years and older and who are economically disadvantaged in 1990. The school dropout population is quantified in the census as those (16+) not attending school and with up to a 12th grade education but no diploma. Information in the table is only available for the total SDA.

Title II - Ten Percent Provision Target Groups

Alcoholics and Addicts

This table reflects data on admissions to substance abuse treatment programs and is generated by the Michigan Department of Public Health. Since information was only available at the county level, data for city level service delivery areas is not provided.

Displaced Homemakers

The following statement represents an updated definition for displaced homemakers consistent with legislation and data availability. A displaced homemaker is an individual who is:

1. 35-62 years of age
2. divorced, separated or widowed
3. currently not employed
4. has not been employed within the last five years

These characteristics are cross-tabulated from 1990 Census data to arrive at a more current estimate of "displaced homemakers" in both definition and data terms. Information in the table is only available for the total SDA.

Limited English Language Proficiency

The information in this table is based on 1990 Census data on ability to speak English. This information is derived from responses to question 15c in the census questionnaire where persons who reported they spoke a language other than English were asked to characterize their ability to speak English. These responses are extremely subjective since they are based on the respondent's own perception.

Offenders

The term "offender" means any adult or juvenile who is or has been subject to any state of the criminal justice process for whom services under JTPA may be beneficial or who requires assistance in overcoming artificial barriers to employment resulting from a record of arrest or conviction. This table presents actual count data from the Michigan Department of Corrections. The table reflects parolees and residents of correction centers as of May 1993 by SDA from which sentenced. This information does not include offenders in local jails, juvenile courts or the federal facility in Milan. Since information was only available at the county level, data for city level service delivery areas are not provided.

Older Workers / Older Individuals

Older workers are defined as those 55 years of age and over. Services are mandated in two sections of JTPA; Section 124 and the ten percent provision of Title II. Section 124 refers to disadvantaged older individuals, and is presented as a subset of the economically disadvantaged information in Table V.A. The ten percent provision refers to all older workers, and is a subset of the civilian labor force data in Table V.C.

Teenage Parents

The information in this table is based on 1990 Census data. Teenage parents are defined as teenagers aged 14-19 with dependent children. This table reflects the total teenage parent population as well as those economically disadvantaged for each service delivery area.

Veteran Population and Labor Force

The information in this table is based on 1990 Census data. The term "veteran" as defined by JTPA is an individual who served in the active military, naval, or air service, and who was discharged or released there from under conditions other than dishonorable.

According to 1990 Census data, more than one-fourth of all males 16 years and older are veterans. Since, a population estimate of all veterans will significantly overstate service needs, additional information is provided reflecting labor force attachment as well as those veterans, in the population and labor force who are economically disadvantaged.

Special JTPA Tables

Ratio of Civilian Government to Wage and Salary Employment

This ratio is used to regulate the distribution of participants in on-the-job-training (OJT) between private and government employment. The information is derived from the Bureau of Labor Statistic's 790 Employment Survey data base generated by Michigan Employment Security Commission's Bureau of Research and Statistics (MESC-BRS). The data base is a monthly employment survey of establishments by place of work and does not include agricultural or self-employment.

The wage and salary employment estimates, based on place of work are used rather than total employment estimates from the census which are based on place of residence. The place of work data was considered more consistent with the legislation in terms of current information and the analysis of area industry structure.

For most SDA's, the data in the table is the percent of government to total wage and salary employment computed from MESC labor market area (LMA) wage and salary employment data. For SDA's which do not conform to LMA boundaries, the LMA data were disaggregated using county employment estimates based on employer reports under the unemployment insurance system (ES-202 report).

Annual average 1992 wage and salary data were used for SDA's conforming to LMA boundaries. Annual average 1992 ES-202 data were used to desegregate county employment for SDA's not conforming to labor market boundaries. Employment estimates by place of work are only available for SDA's comprising whole counties. It is recommended that sub-county SDA's use the information provided for their respective county.

Ratio of Private Employment to Population

This ratio is one of several criteria used to justify administrative costs in excess of the 30 percent limitation (Section 108, Part 2, b(ii)). The employment information is derived from the establishment survey data base described in the previous table. The population data is based on the U.S. Bureau of the Census.

Welfare Registrants

Information in this table may be useful for additional program planning needs. The table is based on information from the Michigan Department of Social Services and represents as of October 1993 an actual count of individuals receiving financial support from the Aid to Families with Dependent Children (AFDC), State Family Assistance (SFA) and Food Stamp (FS) programs. The information is provided by sex, race and age for each service delivery area on welfare registrants. Registrants are recipients who meet the worker requirement and must participate in training as well as work assignment. Information in the table is only available for the total SDA.

APPENDICES

APPENDICES

A. Glossary . . . . . .

B. Per Capita Personal Income by County . . . . . .

C. Unemployment Insurance Claimants by SDA . . . . . .

D. 1988 - 2000 Detailed Occupational Projections . . . . . .

APPENDIX A

GLOSSARY

GLOSSARY

BENCHMARK (CURRENT EMPLOYMENT STATISTICS) indicates the most recent time period during which the industry employment estimates, which are based on a monthly sample of local employers, were compared with and adjusted to the total count of area jobs as reported under the Michigan Employment Security Act. Additionally, estimates of noncovered employment are included.

BENCHMARK (CURRENT POPULATION SURVEY) indicates the most recent time period during which the labor force, employment and unemployment estimates, by place of residence, were compared with and adjusted to the national household survey conducted in Michigan by the U.S. Bureau of Labor Statistics (BLS).

CIVILIAN LABOR FORCE (BY PLACE OF RESIDENCE) is the summation of the number of area residents who are estimated to be employed and the number of area residents estimated to be unemployed.

CURRENT POPULATION SURVEY is conducted monthly in approximately 3,000 Michigan households by the U.S. Bureau of the Census to derive civilian labor force, total employment and unemployment estimates for the state. These estimates are prepared directly by the U.S. Bureau of Labor Statistics (BLS) and released at the same time as the national figures each month. Labor force estimates for subareas of Michigan are compiled by the Bureau of Research and Statistics of the Michigan Employment Security Commission (MESC) based on standard BLS procedures. These independently derived figures for labor market areas are then adjusted for additivity to the statewide totals.

ECONOMICALLY DISADVANTAGED PERSON the term "economically disadvantaged" means an individual who meets one of the following criteria:

A. Receives, or is a member of a family which receives cash welfare payments under a federal, state or local welfare program;

B. Has, or is a member of a family which has received a total income for the six (6) months prior to application which is not in excess of the most recently established poverty levels determined in accordance with criteria established by the Office of Management and Budget (OMB), or is 70 percent of the lower standard of living;

C. Receives food stamps pursuant to the Food Stamp Act of 1977;

D. Is a foster child, on behalf of whom state or local government payments are made; or

E. Is an adult, handicapped individual whose own income meets the requirements of (A) or (B) above, but who is a member of a family whose income does not meet such requirements.

EMPLOYMENT, TOTAL includes an unduplicated estimate of area residents who earned wages during the week including the 12th of each month. This estimate includes agricultural employees, self-employed and unpaid family workers, domestics and strikers, as well as residents who were employed in wage and salary jobs within the labor market area or in another labor market area.

HANDICAPPED the term "handicapped individual" means any individual who has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment.

INCOME LEVELS FOR ECONOMICALLY DISADVANTAGED is the maximum annual income which can be received by an individual or family that is determined to be economically disadvantaged. The maximum income level varies according to size of family, and is either 70 percent of the Lower Living Standard Income Level (LLSIL) or the poverty level, whichever is the greater of the two figures. The following tables provide metropolitan and nonmetropolitan family income levels and identify which SDA's shall utilize the appropriate tables.

POVERTY INCOME LEVEL / 70 PERCENT OF LLSIL
NONMETROPOLITAN AREAS

Family Size	Income Level
1	$ 6,970 (poverty)
2	9,430 (poverty)
3	12,230
4	15,090
5	17,810
6	20,830

For families in excess of six members, add $3,020 for each additional member.

SDA's which will utilize the poverty/nonmetropolitan Lower Living Standard Income Level are: Region 7B, West Central Michigan, Northeast Michigan, Northwest Michigan, Eastern Upper Peninsula, Central Upper Peninsula and Western Upper Peninsula.

POVERTY INCOME LEVEL / 70 PERCENT OF LLSIL
METROPOLITAN AREAS

Family Size	Income Level
1	$ 6,970 (poverty)
2	9,480
3	13,010
4	16,060
5	18,960
6	22,170

For families in excess of six members, add $3,210 for each additional member.

SDA's which will utilize the poverty/metropolitan Lower Living Standard Income Level are: Barry-Branch-Calhoun, Berrien-Cass-Van Buren, Lansing Tri-County, City of Detroit, Thumb Area, CAPC, Region II, Kalamazoo-St. Joseph, Kent County, Livingston, Washtenaw, Macomb-St. Clair, Saginaw-Midland-Bay, Downriver-Monroe, Oakland County, Muskegon-Oceana, Allegan-Ottawa, Pontiac Area, Genesee-Shiawassee and Wayne County.

JOB TRAINING PARTNERSHIP ACT (JTPA) began operating in October 1984 with the purpose of providing job training and employment services to the unemployed. The primary role of the federal government is to set performance standards and allocate funds to the states, while the individual states coordinate and administer the JTPA programs.

LABOR MARKET AREAS (LMA'S) consist of a central community and surrounding territory in which there is a concentration of economic activity or labor demand and in which workers can generally change jobs without changing their residence. Major labor market areas (MSA's) have a central city (or adjoining cities) with a population of 50,000 or more. Small labor market areas must have a central community that has a population nucleus of 5,000 or more.

METROPOLITAN STATISTICAL AREAS (MSA'S) are designated and defined by the U.S. Department of Commerce so that local economic and social statistics collected by many government and private organizations may be presented on a common geographic basis. Areas qualifying as metropolitan statistical areas have either a city with a population of at least 50,000 or a Bureau of the Census urbanized area of at least 50,000 and a total metropolitan statistical area population of at least 100,000.

OFFENDER the term "offender" means any adult or juvenile who is or has been subject to any stage of the criminal justice process and for whom services under employment and training legislation may be beneficial or who requires assistance in overcoming artificial barriers to employment resulting from a record of arrest or conviction.

SERVICE DELIVERY AREAS (SDA's) are geographic areas designated by the Governor to develop and implement relevant employment and training programs in the local area.

UNEMPLOYMENT RATE is the total number of unemployed in the labor market area divided by the civilian labor force in the labor market area.

UNEMPLOYMENT, TOTAL is an unduplicated estimate of area residents who did not earn any wages during the survey week including the 12th of the month, and who were able, available, and actively seeking work during the thirty-day period preceding the survey week.

WAGE AND SALARY EMPLOYMENT (BY PLACE OF WORK) is an estimate of the number of individual jobs in the area based on a survey of employers during the survey week. These estimates are available by industry and include nonresidents who commute into the labor market area for work, as well as individuals who have more than one job in the same labor market area.

WORKERS INVOLVED IN LABOR DISPUTES is an estimate of the number of jobs that are affected by a labor-management dispute during the entire survey week. Workers included in this category are not considered unemployed since they have job attachment.

APPENDIX B

PER CAPITA PERSONAL INCOME BY COUNTY

The per capita personal income estimates presented in this publication were produced by the Bureau of Economic Analysis. Personal income and derivative measures have a broad range of application. They are widely used in both the public and private sectors. For state and local governments, the estimates are useful inputs in economic resource profiles and in economic models developed for planning purposes.

Per capita personal income of an area is the income received by, or on behalf of all the residents of the area. Personal income is the sum of wage and salary disbursements, other labor income, proprietors' income with inventory valuation and capital consumption adjustments, rental income of persons with capital consumption adjustments, personal dividend income, personal interest income, and transfer payments, less personal contributions for social insurance.

PER CAPITA PERSONAL INCOME BY COUNTY
1981 AND 1991

Area	1981	1991
Michigan	10,902	18,642
Alcona	7,970	13,182
Alger	6,612	11,433
Allegan	9,089	16,507
Alpena	8,681	15,107
Antrim	9,197	14,503
Arenac	8,502	13,471
Baraga	7,664	13,368
Barry	9,932	16,896
Bay	10,394	16,790
Benzie	8,413	13,972
Berrien	9,751	16,576
Branch	9,238	14,162
Calhoun	10,083	16,305
Cass	9,130	16,286
Charlevoix	8,752	16,284
Cheboygan	8,165	13,696
Chippewa	7,445	11,676
Clare	7,460	12,558
Clinton	9,481	16,502
Crawford	7,159	10,822
Delta	8,632	14,909
Dickinson	10,032	17,776
Eaton	10,357	18,058
Emmet	9,683	18,949
Genesee	11,263	17,459
Gladwin	7,605	13,130
Gogebic	7,720	14,155
Grand Traverse	9,887	17,586
Gratiot	8,796	14,716
Hillsdale	8,710	14,772
Houghton	7,529	13,601
Huron	9,265	16,445
Ingham	10,681	17,947
Ionia	8,082	13,171
Iosco	7,871	13,540
Iron	9,001	14,644

PER CAPITA PERSONAL INCOME BY COUNTY (Continued)
1981 AND 1991

Area	1981	1991
Isabella	8,489	14,917
Jackson	10,298	16,039
Kalamazoo	10,830	19,023
Kalkaska	7,407	11,161
Kent	10,814	18,989
Keweenaw	7,347	13,987
Lake	6,663	11,200
Lapeer	9,488	17,057
Leelanau	9,741	18,122
Lenawee	9,942	16,427
Livingston	10,817	20,979
Luce	9,116	19,717
Mackinac	8,170	14,432
Macomb	11,723	20,877
Manistee	8,668	15,104
Marquette	8,620	14,658
Mason	8,342	14,692
Mecosta	6,628	12,195
Menominee	8,260	14,455
Midland	11,660	20,155
Missaukee	6,916	11,422
Monroe	9,998	17,266
Montcalm	9,281	13,385
Montmorency	7,830	11,545
Muskegon	9,535	15,073
Newaygo	8,144	14,394
Oakland	14,968	27,070
Oceana	8,294	14,954
Ogemaw	7,050	11,353
Ontonagon	8,620	14,591
Osceola	6,893	12,061
Oscoda	6,849	11,202
Otsego	8,756	14,980
Ottawa	10,041	18,583
Presque Isle	8,754	13,636
Roscommon	8,193	13,521
Saginaw	10,495	17,162
St. Clair	10,059	17,608

PER CAPITA PERSONAL INCOME BY COUNTY (Concluded)
1981 AND 1991

Area	1981	1991
St. Joseph	9,144	15,215
Sanilac	8,776	15,210
Schoolcraft	7,988	13,403
Shiawassee	9,688	16,137
Tuscola	9,351	14,418
Van Buren	8,631	14,383
Washtenaw	12,621	23,116
Wayne	10,946	17,662
Wexford	7,706	13,804

Source: Bureau of Economic Analysis

APPENDIX C

UNEMPLOYMENT INSURANCE CLAIMANTS BY SDA

This information is prepared by the Michigan Employment Security Commission from the Unemployment Insurance Data base. This information represents unemployment insurance claims for regular benefits for the survey week which includes the 12th of the month during August 1993. The claimant data has been geographically distributed by Service Delivery Area.

UNEMPLOYMENT INSURANCE CLAIMANTS
BY SERVICE DELIVERY AREA
AUGUST 1993

Area	Regular Unemployment Insurance
Barry-Branch-Calhoun	2,055
Berrien-Cass-Van Buren	2,504
Lansing Tri-County	7,463
City of Detroit	9,897
Thumb Area	2,069
CAPC	2,779
Region II	2,633
Kalamazoo-St. Joseph	1,917
Kent County	4,371
Washtenaw County	2,167
Livingston County	928
Macomb-St. Clair	8,483
Saginaw-Midland-Bay	3,495
Monroe County	1,245
Oakland County	10,926
Muskegon-Oceana	2,136
Allegan-Ottawa	1,832
Genesee-Shiawassee	7,066
Wayne County (*)	9,969
Region 7B	1,127
West Central Michigan	1,222
Northeast Michigan	1,296
Northwest Michigan	1,950
Eastern Upper Peninsula	436
Central Upper Peninsula	1,547
Western Upper Peninsula	684
State of Michigan	92,197

Source: Michigan Employment Security Commission
Bureau of Research and Statistics

(*) Wayne County minus the city of Detroit.

APPENDIX D

DETAILED OCCUPATIONAL PROJECTIONS

The following tables list detailed occupational projections for the SDA for the period 1988 - 2000. Included are employment levels for both years, net and percentage change in employment and data on annual openings.

MICHIGAN
Occupational Employment Projections
1988 - 2000

Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
MANAGEMENT ANALYSTS	1,950	2,300	375	19	130	30	100
ALL OTHER MANAGEMENT SUPPORT WKS	28,950	34,850	5,875	20	1,660	490	1,170
PROFESSIONAL AND TECHNICAL OCCUP.	**671,600**	**804,400**	**132,800**	**20**	**29,760**	**11,060**	**18,700**
ENGINEERS	**61,950**	**72,050**	**10,075**	**16**	**2,440**	**840**	**1,600**
AERONAUTICAL & ASTRO. ENGINEERS	350	300	-25	-9	10	0	10
CHEMICAL ENGINEERS	1,200	1,400	200	16	50	20	30
CIVIL ENGINEERS, INCL. TRAFFIC	3,900	4,550	650	16	170	50	120
ELECTRICAL & ELECTRONIC ENGINEER	12,500	17,100	4,600	37	650	380	270
INDUSTRIAL ENGINEERS,EXC. SAFETY	7,800	8,500	675	9	240	60	180
MECHANICAL ENGINEERS	27,650	30,900	3,275	12	1,010	270	740
METALLURGISTS AND REL. ENGINEERS	1,300	1,300	0	1	40	0	40
MINING ENGINEERS, INC. SAFETY	100	50	-25	-14	0	0	0
NUCLEAR ENGINEERS	200	200	-25	-9	0	0	0
PETROLEUM ENGINEERS	100	100	25	12	0	0	0
ALL OTHER ENGINEERS	6,850	7,600	725	11	260	60	200
ARCHITECTS AND SURVEYORS	**4,850**	**5,650**	**775**	**16**	**190**	**70**	**120**
ARCHITECTS, EXC. LAND. & MARINE	1,900	2,300	400	22	100	30	70
LANDSCAPE ARCHITECTS	100	150	25	29	0	0	0
SURVEYORS	2,850	3,200	350	12	80	30	50
ENGINEERING TECHNICIANS	**47,450**	**54,050**	**6,575**	**14**	**1,560**	**550**	**1,010**
DRAFTERS	22,950	25,050	2,100	9	660	180	480
ELECTRICAL & ELECTRONIC TECHN.	9,300	12,600	3,300	35	410	270	140
ALL OTHER ENGINEERING TECHNICIANS	15,200	16,400	1,200	8	500	100	400
PHYSICAL SCIENTISTS	**5,150**	**5,950**	**800**	**16**	**190**	**70**	**120**
ATMOSPHERIC & SPACE SCIENTISTS	50	100	25	20	0	0	0
CHEMISTS	3,900	4,450	575	15	130	50	80
GEOLOGIST, GEOPHYSICIST, OCEANOG	450	550	100	22	30	10	20
PHYSICISTS AND ASTRONOMERS	300	350	75	28	20	10	10
ALL OTHER PHYSICAL SCIENTISTS	500	550	50	11	10	0	10
LIFE SCIENTISTS	**5,750**	**6,950**	**1,225**	**21**	**220**	**100**	**120**
AGRICULTURAL AND FOOD SCIENTISTS	1,100	1,450	400	36	60	30	30
BIOLOGICAL SCIENTISTS	1,850	2,150	325	17	60	30	30

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
TOTAL, ALL OCCUPATIONS	4,212,100	4,661,150	448,975	11	169,770	37,430	132,340
MANAGERS AND MANAGEMENT SUPPORT	408,550	472,850	64,325	16	20,200	5,360	14,840
MANAGERIAL & ADMINISTRATIVE OCC.	303,650	349,700	46,050	15	15,040	3,840	11,200
ADMINISTRATIVE SERVICE MANAGERS	7,300	9,200	1,900	26	460	160	300
COMMUNICATION,TRANSP.,UTIL.MGRS	3,800	4,200	425	11	190	40	150
CONSTRUCTION MANAGERS	4,550	5,350	825	18	250	70	180
EDUCATION ADMINISTRATORS	12,750	14,800	2,075	16	560	170	390
ENGINEER., MATH., NAT. SCI. MGR.	10,200	12,550	2,350	23	610	200	410
FINANCIAL MANAGERS	22,750	26,250	3,525	15	850	290	560
FOOD SERVICE & LODGING MANAGERS	19,750	25,250	5,475	28	1,280	460	820
GENERAL MANAGERS AND TOP EXEC.	97,200	109,050	11,850	12	4,730	990	3,740
GVMT CHIEF EXEC. & LEGISLATORS	2,300	2,350	25	1	120	0	120
INDUSTRIAL PRODUCTION MANAGERS	9,900	11,300	1,375	14	500	120	380
MARKETING, ADV., PUBLIC REL.MGRS	13,650	16,400	2,750	20	650	230	420
PERSONNEL,TRAINING,LABOR REL.MGR	6,800	7,900	1,150	17	300	100	200
PROPERTY & REAL ESTATE MANAGERS	4,900	6,350	1,425	29	490	120	370
PURCHASING MANAGERS	10,700	12,100	1,400	13	450	120	330
ALL OTHER MANAGERS & ADMINIST.	77,200	86,700	9,500	12	3,620	790	2,830
MANAGEMENT SUPPORT OCCUPATIONS	104,900	123,200	18,275	17	5,170	1,520	3,650
ACCOUNTANTS AND AUDITORS	28,050	33,200	5,150	18	1,270	430	840
BUDGET ANALYSTS	2,300	2,550	225	10	110	20	90
LOAN OFFICERS AND COUNSELORS	4,500	5,500	975	22	260	80	180
PERSONNEL SPECIALISTS & RELATED	11,150	13,800	2,675	24	530	220	310
EMPLOYMENT INTERVIEWERS	2,800	4,350	1,550	56	220	130	90
PERSONNEL,TRAIN.,LABOR REL. SPEC	8,350	9,450	1,125	13	310	90	220
PURCHASING AGENTS AND BUYERS	13,550	14,550	1,025	8	560	90	470
PURCHASING AGENT EX.WHO/RET/FARM	8,450	9,250	825	10	340	70	270
WHOLESALE, RETAIL BUYERS,EX.FARM	5,100	5,300	225	4	220	20	200
UNDERWRITERS	1,650	2,050	450	27	50	40	10
ALL OTHER MANAGEMENT SUPPORT OCC	43,750	51,500	7,775	18	2,410	650	1,760
CLAIMS EXAMINERS, INSURANCE	700	950	225	31	50	20	30
CONSTRUCTION, BUILDING INSPECTOR	2,400	2,650	225	10	210	20	190
COST ESTIMATORS	7,300	7,950	650	9	250	50	200
INSPECTORS & COMPLIANCE OFFICERS	2,400	2,850	425	18	120	40	80

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Average Annual Openings Growth	Average Annual Openings Replacement
FORESTER, CONSERVATION SCIENTIST	600	700	75	12	30	10	20
ALL OTHER LIFE SCIENTISTS	2,200	2,600	450	20	90	40	50
PHYSICAL & LIFE SCIENCE TECHNICIAN	8,500	9,600	1,150	14	290	100	190
COMPUTER AND MATHEMATICAL OCC.	37,550	51,850	14,350	38	1,510	1,190	320
COMPUTER AND RELATED OCCUPATIONS	33,300	46,750	13,450	40	1,340	1,120	220
COMPUTER SYSTEMS ANALYSTS	15,300	21,900	6,600	43	680	550	130
COMPUTER PROGRAMMERS AND AIDES	17,750	24,500	6,775	38	650	560	90
PROGRAMMERS: NUMERICAL, TOOL	250	350	75	24	10	10	0
COMPUTER,MATH,& RESEARCH ANALYST	4,200	5,150	900	22	180	80	100
ACTUARIES	300	450	125	43	20	10	10
MATHEMATICIANS & MATH SCIENTISTS	150	200	0	7	0	0	0
OPERATIONS AND RESEARCH ANALYSTS	2,250	3,100	850	38	120	70	50
STATISTICIANS	1,500	1,400	-100	-6	30	-10	40
SOCIAL SCIENTISTS,RECR.,RELIGION	52,650	62,150	9,500	18	2,880	790	2,090
SOCIAL SCIENTISTS	8,300	9,500	1,250	15	250	110	140
ECONOMISTS	600	800	175	26	20	10	10
PSYCHOLOGISTS	3,950	4,750	800	21	130	70	60
URBAN AND REGIONAL PLANNERS	500	550	50	11	20	10	10
ALL OTHER SOCIAL SCIENTISTS	3,200	3,450	225	7	80	20	60
SOCIAL, RECREATION, RELIGION WKS	44,350	52,650	8,250	19	2,640	690	1,950
CLERGY	13,500	14,200	700	5	1,000	60	940
DIRECTORS,RELIGIOUS ACTIV./EDUC.	2,000	1,750	-225	-11	110	-20	130
HUMAN SERVICES WORKERS	6,300	8,650	2,300	37	350	190	160
RECREATION WORKERS	8,800	9,550	750	9	440	60	380
SOCIAL WORKERS	13,750	18,500	4,725	34	730	390	340
LAW AND RELATED OCCUPATIONS	23,000	30,450	7,450	32	1,790	620	1,170
LAWYERS AND JUDICIAL WORKERS	18,750	24,700	5,925	32	1,520	490	1,030
JUDGES, MAGISTRATES, & JUD. WKS	1,150	1,300	150	14	100	10	90
LAWYERS	17,650	23,400	5,750	33	1,420	480	940
LEGAL ASSISTANTS & TECHNICIANS	4,200	5,750	1,525	36	270	130	140
PARALEGALS	1,250	2,150	875	70	110	70	40

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
TITLE EXAMINERS AND SEARCHERS	650	700	75	14	30	10	20
ALL OTHER LEGAL ASSISTANTS	2,350	2,900	550	24	140	50	90
TEACHERS, LIBRARIANS, & COUNSELORS	**185,000**	**205,550**	**20,575**	**11**	**7,250**	**1,710**	**5,540**
COLLEGE AND UNIVERSITY FACULTY	27,300	26,850	-450	-2	480	-40	520
COUNSELORS	5,100	6,350	1,275	25	230	110	120
FARM & HOME MANAGEMENT ADVISORS	300	250	-50	-18	0	-10	10
INSTRUCTORS, NONVOCATIONAL EDUC.	4,550	5,200	675	15	270	60	210
LIBRARIANS, ARCHIVISTS & REL WKS	6,600	7,000	425	6	390	40	350
CURATORS,ARCHIVISTS,MUSEUM TECH.	350	400	50	12	40	0	40
LIBRARIANS, PROFESSIONAL	4,300	4,600	250	6	240	20	220
TECHNICAL ASSISTANTS, LIBRARY	1,900	2,000	125	6	110	10	100
TEACHERS,PRESCHOOL, KIND., ELEM.	61,700	68,100	6,400	10	2,400	530	1,870
TEACHERS, SECONDARY SCHOOL	43,600	50,700	7,100	16	1,440	590	850
TEACHERS, VOCATIONAL EDUCATION	9,100	9,500	400	4	430	30	400
ALL OTHER TEACHERS, INSTRUCTORS	26,750	31,600	4,825	18	1,620	400	1,220
HEALTH PRACTITIONERS,TECHNICIANS	**176,600**	**223,750**	**47,150**	**27**	**8,380**	**3,930**	**4,450**
HEALTH TREATING PRACTITIONERS	**34,700**	**40,400**	**5,675**	**16**	**1,870**	**470**	**1,400**
DENTISTS	8,800	10,100	1,325	15	400	110	290
OPTOMETRISTS	1,550	1,900	350	22	160	30	130
PHYSICIANS	22,350	25,850	3,525	16	1,180	290	890
PODIATRISTS	1,000	1,200	200	22	70	20	50
VETERINARIANS, VET. INSPECTORS	1,050	1,300	250	25	70	20	50
THERAPISTS	**9,500**	**12,750**	**3,200**	**34**	**380**	**270**	**110**
OCCUPATIONAL THERAPISTS	1,150	1,700	525	46	60	40	20
PHYSICAL THERAPISTS	1,800	2,600	800	44	100	70	30
RECREATIONAL THERAPISTS	550	750	175	31	20	10	10
RESPIRATORY THERAPISTS	2,300	3,200	900	39	100	80	20
SPEECH PATHOLOGISTS,AUDIOLOGISTS	2,600	3,000	425	16	60	40	20
ALL OTHER THERAPISTS	1,100	1,500	400	36	50	30	20
HEALTH CARE MAINTENANCE,TREATING	**95,500**	**123,850**	**28,350**	**30**	**4,780**	**2,360**	**2,420**
DIETICIANS AND NUTRITIONISTS	1,200	1,400	225	19	60	20	40
EMERGENCY MEDICAL TECHNICIANS	2,350	3,150	825	35	110	70	40
LICENSED PRACTICAL NURSES	22,700	28,150	5,475	24	1,050	460	590
OPTICIANS, DISPENSING & MEASUR.	3,050	3,550	500	16	140	40	100

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
PHARMACISTS	5,900	7,550	1,675	29	340	140	200
PHYSICIAN ASSISTANTS	2,100	2,350	250	12	40	20	20
REGISTERED NURSES	58,250	77,700	19,400	33	3,050	1,620	1,430
HEALTH TECHNICIANS,TECHNOLOGISTS	**36,850**	**46,750**	**9,925**	**27**	**1,350**	**830**	**520**
CLINICAL LAB TECHNOL & TECHN	11,050	12,450	1,375	12	260	120	140
DENTAL HYGIENISTS	4,550	5,450	925	20	110	80	30
EEG TECHNOLOGISTS	300	400	125	43	20	10	10
EKG TECHNICIANS	650	700	75	10	20	10	10
MEDICAL RECORDS TECHN.& TECHNOL.	1,800	2,700	925	52	110	80	30
NUCLEAR MEDICINE TECHNOLOGISTS	450	550	125	25	10	10	0
RADIOLOGIC TECHNOL. & TECHNICIAN	4,500	6,600	2,100	46	230	180	50
SURGICAL TECHNICIANS	1,300	2,050	725	54	90	60	30
ALL OTHER HEALTH PROF.,PARA,TECH	12,250	15,850	3,600	29	530	300	230
WRITER, ARTIST, ENTER., ATHLETE	**45,400**	**55,200**	**9,825**	**22**	**2,360**	**820**	**1,540**
ARTISTS AND COMMERCIAL ARTISTS	7,500	10,000	2,550	34	410	210	200
BROADCAST TECHNICIANS	650	450	-225	-32	-10	-20	10
CAMERA OPERATORS, TV & MOVIES	250	350	75	28	20	10	10
DANCERS AND CHOREOGRAPHERS	50	50	0	3	0	0	0
DESIGNERS	15,400	20,350	4,950	32	970	410	560
MUSICIANS	5,400	5,150	-250	-5	200	-20	220
PHOTOGRAPHERS	2,850	3,350	500	18	150	40	110
PROD.,DIRECT.,ACTORS,ENTERTAINER	900	1,100	175	19	30	20	10
PUBLIC RELATIONS SPECIALISTS	3,000	3,300	300	10	130	30	100
RADIO & TV ANNOUNCER & NEWSCAST.	1,500	1,700	200	14	40	20	20
REPORTERS AND CORRESPONDENTS	2,000	2,150	175	8	70	10	60
WRITERS, EDITORS, INCL TECHNICAL	5,900	7,250	1,350	23	350	110	240
TECHNICIANS & RELATED SUPP OCC	**1,400**	**1,550**	**175**	**12**	**40**	**10**	**30**
AIR TRAFFIC CONTROLLERS	550	650	100	19	30	10	20
ALL OTHER TECHNICIANS	850	900	50	7	20	10	10
ALL OTHER PROFESSIONAL WORKERS	**16,400**	**19,600**	**3,150**	**19**	**640**	**260**	**380**

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
SALES & MARKETING OCCUPATIONS	475,650	549,300	73,650	15	24,610	6,140	18,470
SALES OCCUPATIONS, SERVICES	47,850	56,400	8,550	18	3,310	710	2,600
BROKERS, REAL ESTATE	2,150	2,650	525	24	180	40	140
INSURANCE SALES WORKERS	16,600	19,100	2,500	15	920	210	710
REAL ESTATE APPRAISERS	1,000	1,200	200	20	80	20	60
SALES AGENTS, REAL ESTATE	19,900	22,900	3,000	15	1,520	250	1,270
SECURITIES, FINANCIAL SERV.SALES	4,150	5,250	1,075	26	330	90	240
TRAVEL AGENTS	4,050	5,350	1,275	32	290	110	180
COMMODITY SALES	427,800	492,850	65,100	15	21,290	5,420	15,870
CASHIERS	82,850	91,200	8,300	10	2,200	690	1,510
COUNTER AND RENTAL CLERKS	7,850	9,150	1,325	17	620	110	510
SALESPERSONS, RETAIL	127,700	146,700	19,000	15	7,330	1,580	5,750
STOCK CLERKS, SALES FLOOR	50,300	56,300	5,950	12	2,600	500	2,100
ALL OTHER SALES & RELATED OCC.	159,050	189,550	30,500	19	8,550	2,540	6,010
CLERICAL & ADMIN. SUPPORT OCC.	686,750	756,300	69,550	10	24,120	5,800	18,320
CLERICAL SUPERVISORS & MANAGERS	34,800	37,650	2,850	8	1,180	240	940
INDUSTRY SPECIFIC SUPPORT OCC.	111,350	129,050	17,725	16	3,980	1,480	2,500
BANKING,SECURITY,FINANCE,CREDIT	46,550	53,700	7,150	15	1,470	600	870
ADJUSTMENT CLERKS	12,000	14,400	2,400	20	450	200	250
BANK TELLERS	22,800	25,100	2,300	10	470	190	280
BROKERAGE CLERKS	1,100	950	-175	-16	10	-20	30
CREDIT AUTHORIZERS	650	850	175	25	30	10	20
CREDIT CHECKERS	1,200	1,400	225	19	50	20	30
LOAN AND CREDIT CLERKS	3,950	5,050	1,100	28	200	90	110
LOAN INTERVIEWERS	750	1,000	225	28	40	20	20
NEW ACCOUNTS CLERKS	3,250	4,100	850	26	190	70	120
STATEMENT CLERKS	850	950	75	9	40	10	30
RECORDS PROCESSING OCC.EXC FINAN	64,800	75,350	10,575	16	2,520	890	1,630
ADVERTISING CLERKS	450	500	50	14	20	10	10
BILL AND ACCOUNT COLLECTORS	5,650	6,700	1,100	19	250	90	160
COURT CLERKS	1,150	1,350	200	19	50	20	30
HOTEL DESK CLERKS	2,350	2,950	600	26	160	50	110

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
INSURANCE ADJUSTERS,INVESTIGATOR	3,400	4,300	900	27	130	80	50
INSURANCE CLAIMS CLERKS	3,950	4,350	400	10	90	30	60
INSURANCE POLICY PROCESS. CLERKS	5,500	5,900	425	8	180	40	140
LIBRARY ASSISTANTS & BOOKMOBILE	5,000	5,450	450	9	160	40	120
MUNICIPAL CLERKS	600	650	50	7	20	0	20
PROOFREADERS AND COPY MARKERS	1,050	1,050	-25	-3	50	0	50
REAL ESTATE CLERKS	600	650	75	15	30	10	20
RES. & TICKET AGT., TRAVEL CONS.	3,050	4,000	925	30	150	80	70
TEACHER AIDES & EDUC. ASSISTANTS	25,950	30,650	4,725	18	1,020	390	630
WELFARE ELIGIBILITY WORKERS	4,350	4,900	525	12	170	50	120
ALL OTHER ADJUST & INVESTIGATORS	1,750	1,950	200	11	60	20	40
SECRETARIAL GENERAL OFFICE OCC.	**373,550**	**410,050**	**36,500**	**10**	**13,580**	**3,040**	**10,540**
SECRETARIES	**113,350**	**129,000**	**15,650**	**14**	**4,050**	**1,310**	**2,740**
LEGAL SECRETARIES	8,950	11,100	2,125	24	410	180	230
MEDICAL SECRETARIES	6,850	9,450	2,625	38	400	220	180
ALL OTHER SECRETARIES	97,500	108,450	10,900	11	3,240	910	2,330
GENERAL OFFICE OCCUPATIONS	**260,200**	**281,050**	**20,850**	**8**	**9,550**	**1,740**	**7,810**
BILLING, COST AND RATE CLERKS	10,650	10,850	200	2	270	20	250
BOOKKEEPING & ACCOUNT & AUDITING	60,100	59,400	-675	-1	2,250	-60	2,310
CORRESPONDENCE CLERKS	500	600	125	25	20	10	10
CUSTOMER SERVICE REPS, UTILITIES	3,800	3,900	75	2	90	10	80
FILE CLERKS	9,000	9,300	325	4	210	30	180
GENERAL OFFICE CLERKS	81,300	92,950	11,675	14	3,640	970	2,670
INTERVIEWING CLERKS,EX.PERSONNEL	2,800	3,200	450	16	140	40	100
ORDER CLERKS: MATERIALS, SERVICE	8,000	7,800	-175	-2	150	-20	170
PAYROLL AND TIMEKEEPING CLERKS	5,850	5,450	-425	-7	120	-40	160
PERSONNEL CLERKS, EXCEPT PAYROLL	3,350	3,650	300	9	90	30	60
PROCUREMENT CLERKS	1,800	1,950	175	9	60	10	50
RECEPTIONISTS, INFORMATION CLERK	28,450	38,250	9,825	35	1,660	820	840
STATISTICAL CLERKS	4,250	3,550	-700	-16	40	-60	100
STENOGRAPHERS	5,000	4,050	-1,000	-20	50	-80	130
TYPISTS AND WORD PROCESSORS	35,400	36,150	750	2	750	60	690
DATA PROC,COMM EQUIP,DISTRIB,OCC	**167,100**	**179,550**	**12,450**	**7**	**5,380**	**1,040**	**4,340**
DATA PROCESSING, OFFICE MACHINES	**30,050**	**32,200**	**2,150**	**7**	**550**	**180**	**370**
BILL, POST, CALCULATE MACH OPER.	3,300	2,900	-400	-12	20	-30	50

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
COMPUTER OPERATORS, EXC. PERIPH.	8,850	11,500	2,650	30	310	220	90
DATA ENTRY KEYERS, COMPOSING	650	550	-125	-18	0	-10	10
DATA ENTRY KEYERS, EX. COMPOSING	11,750	11,400	-375	-3	60	-30	90
DUPL., MAIL, & OTHER OFFICE EQU.	4,850	5,150	275	6	150	20	130
PERIPHERAL EDP EQUIP. OPERATORS	600	750	125	19	20	10	10
COMMUNICATIONS EQUIP. OPERATORS	**10,950**	**12,650**	**1,725**	**16**	**430**	**150**	**280**
CENTRAL OFFICE OPERATORS	1,450	1,150	-300	-20	10	-20	30
DIRECTORY ASSISTANCE OPERATORS	1,150	900	-225	-19	10	-20	30
SWITCHBOARD OPERATORS	8,250	10,500	2,225	27	420	190	230
ALL OTHER COMMUNICATION OPERATOR	100	100	0	8	0	0	0
MAIL & MESSAGE DISTRIB. WORKER	**24,100**	**25,850**	**1,750**	**7**	**970**	**150**	**820**
MAIL CLERKS, EXC. MAIL MACHINE	4,900	4,600	-275	-6	150	-20	170
MESSENGERS	3,600	4,000	400	11	230	30	200
POSTAL MAIL CARRIERS	11,150	12,450	1,325	12	440	110	330
POSTAL SERVICE CLERKS	4,450	4,750	325	7	160	30	130
MATERIAL RECORD., SCHED.,DISTRIB	**83,850**	**87,750**	**3,900**	**5**	**2,720**	**330**	**2,390**
DISPATCHER:EXC. POL.,FIRE,AMB.	4,950	5,550	600	12	180	50	130
DISPATCHER:POLICE,FIRE,AMBULANCE	2,250	2,450	225	10	80	20	60
METER READERS, UTILITIES	1,450	1,150	-300	-22	-10	-30	20
ORDER FILLERS, SALES	4,250	4,550	325	8	150	30	120
PRODUCTION, EXPEDITING CLERKS	9,350	9,200	-150	-2	240	-10	250
STOCK CLERKS:STOCKROOM OR WAREH.	27,600	28,650	1,050	4	860	90	770
TRAFFIC, SHIPPING, & REC. CLERKS	23,550	24,950	1,400	6	790	120	670
WEIGHERS, MEASURERS, CHECKERS	3,700	3,800	100	3	150	10	140
ALL OTHER MATERIAL WORKERS	6,750	7,450	675	10	290	60	230
ALL OTHER CLERICAL & ADM.SUPPORT	**18,200**	**21,100**	**2,900**	**16**	**720**	**240**	**480**
SERVICE OCCUPATIONS	**664,350**	**782,050**	**117,700**	**18**	**34,750**	**9,810**	**24,940**
FIRST LINE SUPERVISORS, SERVICE	**11,700**	**13,700**	**1,950**	**17**	**570**	**160**	**410**
FIRE FIGHTING & PREV.SUPERVISORS	2,100	2,250	150	7	110	10	100
HOUSEKEEPERS, INSTITUTIONAL	4,450	5,800	1,375	31	340	110	230
POLICE AND DETECTIVE SUPERVISORS	5,200	5,600	425	8	120	40	80

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PRIVATE HOUSEHOLD WORKERS	**32,900**	**24,800**	**-8,100**	**-25**	**2,330**	**-680**	**3,010**
CHILD CARE WKRS., PVT. HOUSEHOLD	12,700	9,250	-3,425	-27	80	-290	370
CLEANERS & SERVANTS, PVT. HOUSE.	18,100	13,900	-4,200	-23	1,980	-350	2,330
COOKS,PRIVATE HOUSEHOLD	750	600	-175	-23	150	-20	170
HOUSEKEEPERS AND BUTLERS	1,350	1,000	-300	-23	110	-30	140
PROTECTIVE SERVICE OCCUPATIONS	**80,650**	**98,300**	**17,650**	**22**	**4,790**	**1,470**	**3,320**
CORRECTION OFFICERS AND JAILERS	5,950	6,650	675	11	150	60	90
FIRE FIGHTERS	9,150	9,850	700	8	140	60	80
FIRE INSPECTION OCCUPATIONS	550	600	25	7	20	0	20
POLICE DETECTIVES & INVESTIGATOR	2,550	2,800	225	9	40	20	20
POLICE PATROL OFFICERS	17,250	19,550	2,275	13	310	190	120
SHERIFFS & OTHER LAW ENFORCEMENT	2,750	3,000	275	10	160	20	140
DETECTIVES AND INVESTIGATORS	1,550	1,850	325	20	140	30	110
SHERIFFS AND DEPUTY SHERIFFS	1,200	1,150	-25	-3	30	0	30
OTHER PROTECTIVE SERVICE WORKERS	36,800	49,650	12,850	35	3,840	1,070	2,770
CROSSING GUARDS	1,650	1,750	75	4	230	10	220
GUARDS	35,150	47,950	12,775	36	3,610	1,060	2,550
ALL OTHER PROTECTIVE SERVICE	5,600	6,150	600	11	140	50	90
FOOD & BEVERAGE SERVICE OCC.	**274,150**	**328,050**	**53,925**	**20**	**11,360**	**4,500**	**6,860**
BAKERS, BREAD AND PASTRY	5,150	6,900	1,775	34	330	150	180
BARTENDERS	18,200	21,500	3,300	18	930	270	660
COOKS, FAST FOOD AND SHORT ORDER	30,350	33,500	3,150	10	770	260	510
COOKS, INSTITUTION OR CAFETERIA	11,450	12,400	950	8	430	80	350
COOKS, RESTAURANT	15,850	19,700	3,850	24	840	320	520
DINING ROOM & BARTENDER HELPERS	14,500	17,650	3,175	22	490	270	220
FOOD COUNTER, FOUNTAIN & RELATED	49,050	55,100	6,050	12	1,860	500	1,360
FOOD PREPARATION WORKERS	36,900	43,000	6,100	17	1,730	510	1,220
HOSTS & HOSTESSES: REST., LOUNGE	6,900	8,850	1,925	28	380	160	220
WAITERS AND WAITRESSES	63,950	80,850	16,925	26	2,310	1,410	900
ALL OTHER FOOD SERVICE WORKERS	21,900	28,600	6,700	31	1,300	560	740
HEALTH SERVICE OCCUPATIONS	**86,100**	**111,100**	**25,050**	**29**	**4,840**	**2,090**	**2,750**
AMBULANCE DRIVERS & ATTENDANTS	150	150	25	22	0	0	0
DENTAL ASSISTANTS	7,500	9,150	1,650	22	200	140	60
HOME HEALTH AIDES	7,900	13,400	5,500	70	950	460	490
MEDICAL ASSISTANTS	9,900	14,550	4,700	47	640	390	250

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NURSING AIDES AND ORDERLIES	45,100	54,250	9,150	20	2,150	760	1,390
OCCUPATIONAL THERAPY ASSISTANTS	400	550	150	38	20	10	10
PHARMACY ASSISTANTS	4,250	5,350	1,075	25	190	90	100
PHYSICAL, CORRECT.THERAPY ASSIST	1,300	1,800	525	39	70	40	30
PSYCHIATRIC AIDES	5,850	6,900	1,050	18	270	90	180
ALL OTHER HEALTH SERVICE WORKERS	3,750	4,950	1,225	33	340	100	240
CLEAN & BLDG.SERV OCCUP EX.PRIV	**102,900**	**115,350**	**12,475**	**12**	**6,840**	**1,040**	**5,800**
JANITORS, CLEANERS, MAIDS	95,800	107,450	11,625	12	6,390	970	5,420
PEST CONTROLLERS AND ASSISTANTS	400	450	50	13	10	0	10
ALL OTHER CLEAN,BUILDING SERVICE	6,700	7,500	800	12	450	70	380
PERSONAL SERVICE OCCUPATIONS	**52,050**	**62,050**	**10,025**	**19**	**2,610**	**840**	**1,770**
AMUSEMENT & RECREATION ATTENDANT	4,200	4,550	375	9	160	30	130
BAGGAGE PORTERS AND BELLHOPS	450	600	125	28	30	10	20
BARBERS	2,950	2,950	0	0	120	0	120
CHILD CARE WORKERS	16,900	21,700	4,825	29	980	400	580
FLIGHT ATTENDANTS	2,000	2,900	900	46	120	80	40
HAIRDRESSERS AND COSMETOLOGISTS	19,250	20,150	900	5	670	80	590
MANICURISTS	750	850	125	17	30	10	20
SHAMPOOERS	250	250	25	9	10	0	10
SOCIAL WELFARE SERVICE AIDES	4,150	6,950	2,750	66	490	230	260
USHERS, LOBBY ATT., TICKET TAKER	1,150	1,150	0	-1	10	0	10
ALL OTHER SERVICE WORKERS	**23,950**	**28,700**	**4,750**	**20**	**1,420**	**400**	**1,020**
AGRICULTURE, FORESTRY, FISHING	**110,800**	**102,850**	**-7,975**	**-7**	**5,600**	**-650**	**6,250**
FARM OCCUPATIONS	24,950	21,200	-3,750	-15	260	-310	570
FARM OPERATORS AND MANAGERS	51,200	42,000	-9,200	-18	3,740	-770	4,510
FISHERS, HUNTERS, AND TRAPPERS	250	250	0	-3	10	0	10
FORESTRY AND LOGGING OCCUPATIONS	2,350	2,850	525	22	120	50	70
FALLERS AND BUCKERS	1,050	1,250	225	22	50	20	30
LOG HANDLING EQUIPMENT OPERATORS	200	250	50	23	10	0	10
LOGGING TRACTOR OPERATORS	750	950	200	25	40	20	20
ALL OTHER TIMBER CUTTING WORKERS	350	400	50	18	20	10	10
SUPERVISORS, FARM, FOREST,AG.REL	1,600	1,700	100	6	60	10	50
OTHER AGRICULTURE & FORESTRY OCC	28,200	32,400	4,150	15	1,310	350	960

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ANIMAL CARETAKERS, EXCEPT FARM	2,600	2,850	250	9	70	20	50
FOREST AND CONSERVATION WORKERS	800	900	75	11	40	10	30
GARDENERS AND GROUNDSKEEPERS	23,200	26,750	3,525	15	1,130	300	830
NURSERY WORKERS	1,600	1,900	300	18	70	20	50
ALL OTHER AGRIC.,FOREST,FISH.	2,250	2,450	200	9	100	20	80
PRECISION PROD,CRAFT & REPAIR	472,350	492,650	20,300	4	16,360	1,690	13,670
BLUE COLLAR WORKER SUPERVISORS	62,850	63,600	750	1	1,860	60	1,800
MECHANICS, INSTALLERS, REPAIRERS	174,900	188,250	13,375	8	5,670	1,110	4,560
INDUSTRIAL MACHINERY MECHANICS	17,500	19,000	1,500	9	750	120	630
MAINTENANCE REPAIRERS, GEN.UTIL.	37,850	44,400	6,550	17	1,650	550	1,100
MILLWRIGHTS	8,900	8,850	-50	-1	240	0	240
VEHICLE & MOBILE EQUIP. MECHANIC	52,850	58,250	5,400	10	1,540	450	1,090
AIRCRAFT ENGINE SPECIALISTS	200	250	25	9	0	0	0
AIRCRAFT MECHANICS	1,900	2,250	375	20	50	30	20
AUTOMOTIVE BODY,RELATED REPAIRER	8,100	9,150	1,050	13	250	90	160
AUTOMOTIVE MECHANICS	26,950	29,000	2,025	8	710	170	540
BUS, TRUCK, DIESEL ENG. MECHANIC	9,100	10,100	1,000	11	280	80	200
FARM EQUIPMENT MECHANICS	1,000	1,050	25	3	20	0	20
MOBILE HEAVY EQUIPMENT MECHANICS	3,750	4,450	675	18	150	60	90
MOTORCYCLE REPAIRERS	350	300	-25	-10	10	0	10
SMALL ENGINE SPECIALISTS	1,500	1,700	225	15	70	20	50
COMMUNICATIONS EQUIP. MECHANICS	3,950	3,250	-700	-18	50	-60	110
CENTRAL OFFICE & PBX INSTAL/RPR.	1,250	1,250	0	0	40	0	40
RADIO MECHANICS	150	200	0	3	10	0	10
SIGNAL OR TRACK SWITCH MAINT.	100	50	-50	-45	0	0	0
ALL OTHER COMMUN.EQUIP.MECHANICS	2,400	1,750	-650	-27	20	-50	70
ELECTRICAL & ELECTRONIC EQ.MECH.	15,550	16,650	1,100	7	420	90	330
DATA PROCESSING EQUIP. REPAIRERS	1,250	1,750	500	40	50	40	10
ELEC.HOME ENTERTAINMENT EQ. RPR.	1,050	1,150	100	9	40	10	30
ELECTRICAL POWERLINE INSTAL/RPR.	6,100	6,000	-100	-2	120	-10	130
ELECTRONICS REPAIRERS,COMM.&IND.	1,500	1,650	150	11	60	10	50
HOME APPLI.& POWER TOOL REPAIRER	1,050	1,050	50	4	40	0	40

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STATION INSTALL & REPAIR, TELE	700	700	0	0	10	0	10
TELEPHONE & CABLE TV INSTAL/RPR.	2,950	2,950	0	0	30	0	30
ALL OTH.ELEC&ELECTRONIC EQ.MECH	1,050	1,450	400	40	50	30	20
OTHER MECHANICS,INSTALLERS,RPR.	**38,300**	**37,900**	**-425**	**-1**	**1,030**	**-40**	**1,070**
BICYCLE REPAIRERS	650	700	50	7	20	0	20
CAMERA & PHOTOGRAPHIC REPAIRERS	150	150	25	18	10	0	10
COIN & VENDING MACHINE SERVICERS	450	500	25	7	10	0	10
ELECTRIC METER INSTALLERS/REPAIR	600	600	-25	-4	20	0	20
ELECTROMEDICAL & BIOMED. REPAIR.	200	300	75	33	20	10	10
ELEVATOR INSTALLERS & REPAIRERS	250	250	25	7	0	0	0
HEATING, A/C, REFRIG. MECHANICS	7,100	7,500	400	6	210	30	180
MUSICAL INSTRUMENT REPAIR & TUNE	150	150	0	9	10	0	10
OFFICE MACHINE,REGISTER SERVICER	2,050	2,100	50	2	80	0	80
PRECISION INSTRUMENT REPAIRERS	1,500	1,650	125	9	110	10	100
RIGGERS	650	550	-75	-11	10	-10	20
TIRE REPAIRERS AND CHANGERS	2,600	2,900	300	11	60	20	40
WATCHMAKERS	100	100	0	1	10	0	10
ALL OTHER MECHANICS, INSTALLERS	21,850	20,450	-1,400	-6	450	-120	570
CONSTRUCTION TRADES, EXTRACTIVE	**122,950**	**127,000**	**4,025**	**3**	**3,580**	**340**	**3,240**
CONSTRUCTION TRADES	**117,900**	**122,050**	**4,150**	**4**	**3,500**	**350**	**3,150**
BRICKLAYERS AND STONE MASONS	5,800	5,950	150	3	160	10	150
CARPENTERS	25,300	27,050	1,725	7	930	140	790
CARPET INSTALLERS	1,100	1,200	150	13	30	10	20
CEILING TILE INSTALLERS	450	500	25	6	10	0	10
CONCRETE AND TERRAZZO FINISHERS	2,800	2,850	75	2	90	10	80
DRYWALL INSTALLERS & FINISHERS	2,200	2,250	75	3	20	10	10
ELECTRICIANS	22,550	23,400	850	4	620	70	550
GLAZIERS	1,150	1,300	150	14	30	10	20
HARD TILE SETTERS	650	650	50	8	20	0	20
HIGHWAY MAINTENANCE WORKERS	6,000	6,400	375	6	250	30	220
INSULATION WORKERS	1,750	1,900	150	8	30	10	20
PAINTERS AND PAPERHANGERS	10,250	10,600	375	4	360	30	330
PAVING, SURFACING, TAMPING	1,650	2,000	325	19	90	30	60
PIPELAYERS & PIPELAYING FITTERS	2,000	1,950	-25	-2	70	0	70
PLASTERERS	250	250	0	-3	10	0	10
PLUMBER, PIPEFITTER, STEAMFITTER	11,100	11,550	425	4	340	40	300

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ROOFERS	3,750	4,100	350	9	80	30	50
SHEET METAL WORKERS,DUCT INSTALL	12,900	12,050	-850	-7	200	-70	270
STRUCT. & REINFORC. METAL WORKER	2,200	2,400	175	8	50	10	40
ALL OTHER CONSTRUCTION WORKERS	4,000	3,650	-350	-9	100	-30	130
EXTRACTIVE AND BLASTING WORKERS	**5,050**	**4,950**	**-125**	**-3**	**70**	**-10**	**80**
MINING QUARRYING & TUNNELING OCC	100	100	0	-11	0	0	0
ROUSTABOUTS	450	400	-25	-7	10	0	10
ALL OTHER EXTRACTIVE & RELATED	3,550	3,450	-100	-3	50	-10	60
ALL OTHER OIL & GAS EXTRACT OCC	950	950	25	2	20	0	20
PRECISION PRODUCTION OCCUPATIONS	**111,650**	**113,800**	**2,150**	**2**	**4,250**	**180**	**4,070**
PRECISION ASSEMBLERS	**8,200**	**6,600**	**-1,600**	**-19**	**30**	**-130**	**160**
AIRCRAFT STRUCTURE ASSEMBLY	50	0	0	-29	0	0	0
ELECTRICAL, ELECTRONIC ASSEMBLER	2,250	1,500	-750	-33	-20	-60	40
ELECTROMECHANICAL EQ. ASSEMBLER	1,000	800	-250	-23	0	-20	20
FITTERS, STRUC. METAL, PRECISION	600	450	-150	-26	0	-10	10
MACHINE BUILDERS, ASSEMBLERS	2,500	2,250	-250	-10	20	-20	40
ALL OTHER PRECISION ASSEMBLERS	1,800	1,600	-200	-11	30	-20	50
PRECISION METAL WORKERS	**56,650**	**59,100**	**2,425**	**4**	**2,280**	**200**	**2,080**
BOILERMAKERS	300	350	0	4	10	0	10
JEWELERS AND SILVERSMITHS	600	650	50	6	30	0	30
MACHINISTS	23,600	25,650	2,075	9	970	170	800
SHIPFITTERS	50	50	25	51	0	0	0
TOOL AND DIE MAKERS	23,550	23,800	200	1	890	20	870
ALL OTHER PRECISION METAL WORKER	8,550	8,600	75	1	380	10	370
PRECISION WOODWORKERS	**8,900**	**9,200**	**275**	**3**	**410**	**20**	**390**
TEXTILE,APPAREL,FURNISH,PRECSION	**6,700**	**7,250**	**500**	**8**	**520**	**40**	**480**
CUSTOM TAILORS AND SEWERS	2,700	2,850	150	5	250	10	240
PATTERNMAKER,LAYOUT WORKERS,FAB	150	150	0	1	10	0	10
SHOE AND LEATHER WORKERS	550	550	0	-1	60	0	60
UPHOLSTERERS	2,100	2,450	350	17	140	30	110
ALL OTHER PRECISION TEXTILE,APPA	1,250	1,250	0	0	70	0	70

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PRECISION PRINTING WORKERS	3,200	3,800	600	19	140	50	90
BOOKBINDERS	350	400	50	11	10	0	10
COMPOSITOR, TYPESETTER,PRECISION	750	750	-25	-3	20	0	20
JOB PRINTERS	550	650	100	20	20	10	10
LITHOGRAPHY & PHOTOENGRAVING,PRE	1,400	1,850	450	32	80	40	40
ALL OTHER PRECISION PRINTING	150	150	25	20	0	0	0
PRECISION FOOD WORKERS	9,750	9,550	-200	-2	330	-20	350
BAKERS, MANUFACTURING	950	1,000	25	3	30	0	30
BUTCHERS AND MEATCUTTERS	6,550	6,650	100	1	270	10	260
ALL OTHER PRECISION FOOD,TOBACCO	2,250	1,900	-325	-15	30	-30	60
PLANT & SYSTEM OCCUPATIONS	10,600	10,200	-400	-4	270	-30	300
CHEMICAL PLANT AND SYSTEM OPER.	1,150	1,000	-150	-13	20	-10	30
GAS & PETROLEUM PLANT,SYSTEM OCC	400	300	-75	-21	0	-10	10
POWER & REACTOR PLANT OPERATORS	1,500	1,550	0	1	40	0	40
POWER DISTRIBUTORS & DISPATCHERS	600	650	50	8	20	0	20
STATIONARY ENGINEERS	1,350	1,300	-75	-6	40	-10	50
WATER & WASTE TREAT. PLANT OPER.	2,850	3,150	300	11	100	30	70
ALL OTHER PLANT AND SYSTEM OCC.	2,750	2,300	-450	-16	50	-40	90
OTHER PRECISION WORKERS	7,600	8,100	525	7	270	40	230
DENTAL LABORATORY TECHNICIANS	1,600	1,650	25	2	40	0	40
OPTICAL GOODS WORKERS	350	400	50	15	20	10	10
PHOTOGRAPHIC PROCESS WORKERS	250	400	150	58	20	10	10
ALL OTHER PRECISION WORKSERS	5,350	5,650	275	5	200	20	180
OPERATORS,FABRICATORS,& LABORERS	722,100	700,750	-21,350	-3	15,370	-1,780	17,150
INSPECTORS,TESTERS AND GRADERS	32,250	25,100	-7,150	-22	290	-600	890
MACHINE WORKING OCCUPATIONS	234,200	228,950	-5,275	-2	5,690	-440	6,130
MACH.SETTERS SET-UP OPER,TENDERS	87,850	77,000	-10,850	-12	1,190	-910	2,100
COMBIN. MACH.TOOL SET/OPER. M/P	8,400	8,250	-175	-2	240	-10	250
DRILLING,BORING MACH.SET/OP.,M/P	4,900	3,750	-1,150	-24	20	-100	120
GRINDING MACH.SET/OP.M/P	5,850	5,150	-650	-11	110	-60	170
LATHE,TURNING MACH.SETTER/OP,M/P	6,100	5,650	-450	-7	100	-40	140
MACHINE FORMING OPERATORS, M/P	18,750	14,850	-3,900	-21	30	-320	350

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MACHINE TOOL CUTTING OPER., M/P	20,400	17,150	-3,250	-16	310	-270	580
NUMERICAL CONTROL MACH.TOOL, M/P	2,950	3,000	25	1	20	0	20
PUNCHING MACH. SETTER/OPER., M/P	3,350	3,350	25	0	70	0	70
ALL OTHER MACH. TOOL CUT & FORM	17,200	15,850	-1,325	-8	290	-110	400
METAL FABRICATING SETTERS & OPER	12,400	10,250	-2,150	-17	70	-180	250
METAL FABRICATORS,STRUCTURAL MET	1,400	1,350	-50	-3	40	0	40
SOLDERING, BRAZING MACH. SET/OPS	400	300	-100	-22	0	-10	10
WELDING MACHINE SET/OPS/TENDERS	10,600	8,600	-2,025	-19	30	-170	200
METAL & PLASTIC PROCESS.MACH.SET	32,750	35,250	2,500	8	1,000	210	790
ELECTROLYTIC PLATING MACH.OPERS.	2,050	1,950	-75	-4	30	-10	40
FOUNDRY MOLD ASSEMBLY/SHAKEOUT	800	400	-400	-49	-20	-30	10
FURNACE OPERATORS AND TENDERS	1,250	1,100	-175	-14	30	-20	50
HEAT TREATING,TEMPERING MACH.OP.	1,600	1,300	-275	-18	40	-20	60
HEATERS, METAL AND PLASTIC	200	150	-50	-25	10	0	10
HEATING EQUIP. SETTER/OPER. M/P	800	850	50	6	40	0	40
METAL MOLDING MACH.OPS/TEND/SET	3,050	2,600	-450	-15	10	-40	50
NONELECTROLYTIC PLATING MACH.OPR	600	600	0	-1	10	0	10
PLASTIC MOLDING, CASTING OPER.	10,500	14,400	3,900	37	570	330	240
ALL OTHER MET.&PLAS.MACH.SET/OPS	11,900	11,900	-25	0	280	0	280
WOODWORKING MACHINE SETTERS, OP.	3,700	4,300	575	15	180	50	130
HEAD SAWYERS & SAW MACH.OPR/TEND	2,150	2,500	375	17	110	30	80
WOODWORKING MACHINE OPERATORS	1,600	1,800	200	13	70	20	50
PRINTING, BINDING, & RELATED OCC	12,900	16,250	3,350	26	680	280	400
BINDERY MACH. OPERATORS/SET/TEND	2,450	3,000	575	24	130	50	80
LETTERPRESS SETTER/OPERATOR	750	750	25	4	20	0	20
OFFSET LITHOGRAPHIC PRESS SETTER	3,950	5,250	1,325	34	240	110	130
PHOTOENG.& LITHOG. MACH.OPS/TEND	850	1,150	300	36	60	30	30
PRINTING PRESS MACH.OPS/SET/TEND	1,700	2,050	350	21	80	30	50
SCREEN PRINTING MACH. SETTER/OP.	250	350	75	33	20	10	10
TYPESETTING MACH. OPERATOR/TEND.	1,100	1,300	225	19	50	20	30
ALL OTHER PRINTING, BINDING, REL	1,050	1,250	200	20	50	20	30
ALL OTHER PRINTING PRESS SET/OP.	850	1,100	250	29	50	20	30

MICHIGAN
Occupational Employment Projections
1988 - 2000

Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Average Annual Openings Growth	Average Annual Openings Replacement
TEXTILE MACH.OPERATORS & RELATED	**17,150**	**17,650**	**475**	**3**	**830**	**40**	**790**
EXTRUDING MACH. OPERATOR, FIBERS	200	250	25	15	0	0	0
LAUNDRY, DRYCLEANING MACH. OPER.	5,000	5,600	575	11	340	50	290
PRESSING MACH.OPERATOR, TEXTILES	1,800	1,950	125	7	120	10	110
SEWING MACH. OPER., NON-GARMENT	7,050	7,000	-50	-1	270	-10	280
SEWING MACH. OPERATOR, GARMENT	2,350	2,300	-50	-2	90	0	90
SHOE SEWING MACHINE OPERATOR	300	150	-125	-46	-10	-10	0
TEXT.DRAWOUT & WIND.MACH.OPS/SET	150	100	0	-2	0	0	0
TEXTILE MACHINE SETTER/OPERATOR	300	250	-25	-10	10	0	10
OTHER MACH. SET,OPERATORS,TENDER	**67,450**	**68,300**	**825**	**1**	**1,750**	**70**	**1,680**
BOILER OPERATOR,TENDER LOW PRESS	1,000	1,000	-25	-2	40	0	40
CEMENTING & GLUING MACHINE OPER.	1,250	1,200	-50	-3	20	0	20
CHEMICAL EQUIPMENT TENDER	3,000	2,550	-475	-16	30	-40	70
COOKING MACHINE OPER., FOOD/TOB.	600	500	-125	-21	0	-10	10
CRUSHING & MIXING MACHINE OPER.	6,350	5,500	-850	-13	80	-70	150
CUTTING & SLICING MACH. SET/OPS	1,750	1,600	-150	-9	40	-10	50
DAIRY PROCESSING EQUIP. OPERATOR	400	250	-150	-40	0	-10	10
ELECTRONIC SEMICONDUCTOR	300	350	25	10	10	0	10
EXTRUDING & FORMING MACH.SET/OPS	3,900	4,600	750	19	140	60	80
FURNACE, KILN, OVEN,KETTLE OPER.	2,800	2,200	-625	-22	20	-50	70
MOTION PICTURE PROJECTIONISTS	650	650	0	0	50	0	50
PACKAGING & FILLING MACHINE OPER	10,500	9,250	-1,250	-12	110	-100	210
PAINTERS, TRANSPORTATION EQUIP.	2,500	2,000	-475	-19	10	-40	50
PAINTING MACHINE OPERATORS	5,350	6,450	1,100	21	220	90	130
PAPER GOODS MACHINE SETTER/OPER.	1,300	1,150	-100	-8	30	-10	40
PHOTOGRAPHIC PROCESSING MACH.OP.	850	1,200	375	43	50	30	20
SEPARATING, FILTERING MACH. OP.	700	550	-125	-18	0	-10	10
ALL OTHER MACHINE OPERATORS	24,300	27,350	3,000	12	910	250	660
HAND WORKING OCC., INC.ASSEMBLER	**132,350**	**112,150**	**-20,200**	**-15**	**680**	**-1,680**	**2,360**
OTHER HAND WORKERS & ASSEMBLERS	**132,350**	**112,150**	**-20,200**	**-15**	**680**	**-1,680**	**2,360**
CANNERY WORKERS	2,050	1,950	-125	-6	30	-10	40
COIL WINDERS, TAPERS, FINISHERS	500	500	25	6	10	0	10
CUTTERS AND TRIMMERS, HAND	1,850	2,200	350	19	60	30	30
ELECTRICAL, ELECTRONIC ASSEMBLER	6,300	3,900	-2,425	-39	-110	-200	90
GRINDING AND POLISHING, HAND	5,050	3,750	-1,300	-26	-80	-110	30
MACHINE ASSEMBLERS	1,850	1,150	-700	-37	-30	-60	30

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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Growth	Replacement
MEAT, POULTRY, FISH CUTTERS	1,000	1,300	300	30	50	30	20
METAL POURERS, BASIC SHAPES	550	350	-200	-35	-10	-20	10
PAINTING AND COATING, HAND	1,900	2,050	175	10	120	20	100
PORTABLE MACHINE CUTTERS	50	50	0	-4	0	0	0
PRESSERS,HAND	150	150	0	5	0	0	0
SEWERS, HAND	50	50	0	4	10	0	10
SOLDERERS AND BRAZERS	650	600	-25	-4	20	0	20
WELDERS AND CUTTERS	14,700	12,000	-2,675	-18	60	-220	280
ALL OTHER ASSEMBLERS, FABRICATOR	66,150	49,400	-16,775	-25	-340	-1,400	1,060
ALL OTHER HAND WORKERS	29,600	32,700	3,125	11	900	260	640
TRANSP. & MAT. MOVING MACH.OPER.	**167,000**	**175,300**	**8,300**	**5**	**5,270**	**690**	**4,580**
MOTOR VEHICLE OPERATORS	**109,150**	**120,050**	**10,900**	**10**	**4,280**	**910**	**3,370**
BUS DRIVERS	6,250	6,950	700	11	260	60	200
BUS DRIVERS, SCHOOL	14,100	16,600	2,500	18	670	210	460
DRIVER/SALES WORKERS	9,600	9,750	125	1	290	10	280
TAXI DRIVERS AND CHAUFFEURS	2,200	2,850	650	29	210	50	160
TRUCK DRIVERS	74,350	81,250	6,850	9	2,820	570	2,250
ALL OTHER MOTOR VEHICLE OPERATOR	2,650	2,700	50	2	40	10	30
RAIL TRANSPORTATION WORKERS	**1,850**	**1,150**	**-700**	**-37**	**-20**	**-60**	**40**
LOCOMOTIVE ENGINEERS	150	100	-50	-36	-10	-10	0
RAIL YARD ENGINEERS,DINKEY OPER.	250	200	-75	-30	0	-10	10
RAILROAD BRAKE, SIGNAL, SWITCH	600	350	-225	-38	-10	-20	10
RAILROAD CONDUCTORS, YARDMASTERS	750	500	-300	-38	-10	-30	20
ALL OTHER RAIL VEHICLE OPERATORS	50	50	-25	-51	0	0	0
WATER TRANSPORTATION & RELATED	**350**	**350**	**-25**	**-4**	**10**	**0**	**10**
ABLE SEAMEN, MARINE OILERS	100	100	0	-2	0	0	0
CAPTAINS AND PILOTS, SHIP	150	150	0	-6	10	0	10
MATES: SHIP, BOAT, AND BARGE	50	50	0	20	0	0	0
SHIP ENGINEERS	50	50	0	-24	0	0	0
AIRCRAFT PILOTS, FLIGHT ENGINEER	**3,550**	**4,900**	**1,350**	**38**	**200**	**110**	**90**

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Occupational Employment Projections
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Occupation Title	Employment 1988	Employment 2000	Change Level	Change Percent	Average Annual Openings Total	Average Annual Openings Growth	Average Annual Openings Replacement
OTHER TRANSPORTATION WORKERS	**12,100**	**12,450**	**325**	**3**	**310**	**30**	**280**
PARKING LOT ATTENDANTS	750	850	100	15	60	10	50
SERVICE STATION ATTENDANTS	8,150	8,450	250	3	140	20	120
ALL OTHER TRANSPORTATION WORKERS	3,200	3,150	-50	-1	110	0	110
MATERIAL MOVING EQUIPMENT OPER.	**40,000**	**36,450**	**-3,575**	**-9**	**490**	**-300**	**790**
CRANE AND TOWER OPERATORS	2,800	2,600	-225	-8	80	-20	100
EXCAVATION LOADING MACHINE OPER.	1,450	1,550	125	9	50	10	40
GRADER, DOZER, SCRAPER OPERATORS	1,650	1,900	225	14	70	20	50
HOIST AND WINCH OPERATORS	200	200	0	-1	0	0	0
INDUSTRIAL TRUCK & TRACTOR OPER.	22,550	18,050	-4,500	-20	-20	-380	360
OPERATING ENGINEERS	6,500	7,350	850	13	220	70	150
OTHER MATERIAL MOVING EQUIP.OPER	3,050	2,900	-150	-5	40	-10	50
ALL OTHER TRANSP.,MAT.MOVING OPR	1,800	1,900	100	6	40	10	30
HELPERS,LABORERS,AND HAND MOVERS	**156,300**	**159,250**	**2,975**	**2**	**3,450**	**250**	**3,200**
CONSTRUCTION TRADES HELPERS	9,450	9,750	275	3	130	20	110
MACHINE FEEDERS AND OFFBEARERS	8,450	6,450	-2,000	-24	20	-170	190
HAND FREIGHT, STOCK, MAT. MOVERS	138,350	143,050	4,700	3	3,300	390	2,910
FREIGHT & MATERIAL MOVERS, HAND	24,350	24,950	575	2	460	50	410
HAND PACKERS AND PACKAGERS	18,300	17,200	-1,125	-6	370	-90	460
REFUSE COLLECTORS	3,200	3,600	400	12	140	30	110
VEHICLE, EQUIPMENT CLEANERS	9,350	9,800	425	5	200	40	160
ALL OTHER HELPER, LABORER, MOVER	83,100	87,500	4,400	5	2,130	370	1,760